
Chainsaw lumber production: a necessary evil?

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Cover photo: Chainsaw operations in the Brong Ahafo Region, Ghana (Anneke Wieman)

CHAINSAW LUMBER PRODUCTION: A NECESSARY EVIL?

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ABBREVIATIONS

AAC	Annual Allowable Cut
AD	Air dried
CBO	Community Based Organisation
CEPS	Customs Excise and Preventive Service
CFC	Community Forest Committee
CFMU	Collaborative Forest Management Unit
DA	District Assembly
DFID	United Kingdom's Department for International Development
DFR	District Felling Returns
DFO	District Forest Officer
ECOWAS	Economic Community of West African States
FC	Forestry Commission
FOE	Friends of the Earth
FPIB	Forest Product Inspection Bureau
FPID	Forest Product Inspection Division
FSDP-2	Forest Sector Development Project II
FSD	Forest Services Division
GDP	Gross Domestic Product
GIPC	Ghana Investment Promotion Centre
GREDA	Ghana Real Estates Developers Association
GREL	Ghana Rubber Estate Limited
G T A	Ghana Timber Association
GTMO	Ghana Timber Millers Organization
GTV/GBC	Ghana Television / Ghana Broadcasting Corporation
HFZ	High Forest Zone
HIPC	Highly Indebted Poor Country
KD	Kiln dried
Km	Kilometre
KNUST	Kwame Nkrumah University of Science and Technology
LI	Legislative Instrument
LMCC	Log Measurement Certificate and Conveyance
LUS	Lesser Used Species
MLF	Ministry of Lands and Forestry
MLGRD	Ministry of Local Government and Rural Development
MWH	Ministry of Works and Housing
MRW	Mixed Red Woods
NGO	Non-Governmental Organisation
PAC	Policy Advisory Committee of the Ministry of Lands and Forestry
PNDC	Provisional National Defence Council
RCC	Regional Coordinating Councils
SRA	Social Responsibility Agreement
SFM	Sustainable Forest Management
TBI	Tropenbos International
TEDB	Timber Export Development Board
TIDD	Timber Industry Development Division
TUC	Timber Utilisation Contract
TUP	Timber Utilisation Permit
T&G	Tongue and Groove
VAT	Value Added Tax
Vol.	Volume
WAG	Woodworkers Association of Ghana
WITC	Wood Industries Training Centre

PREFACE

TBI-Ghana's aim is to improve forest management for people, conservation and sustainable development. The strategies used are research, capacity building, collaboration and uptake and application of research results. Promoting dialogue is part of that. Therefore, TBI-Ghana provides a platform to bring stakeholders together to discuss topical issues and jointly formulate a way forward.

These proceedings contain the results of a Focus Group Discussion titled 'Chainsaw lumber production: a necessary evil?' organised by Tropenbos International – Ghana (TBI-Ghana) on 11th November 2003 in Kumasi. Over 100 people took part and presented the views of the different stakeholder groups on the chainsaw lumber issue.

In the period between the discussion and the printing of this document, a lot has happened as a result of the discussion. The Minister of Lands and Forestry has shown keen interest in the results. Also, the parliamentary select committee has shown interest in the discussion since they want to find out more information for possible policy revision. Tropenbos International noticed similarities between the chainsaw issue in Ghana and Guyana. The two countries have a similar problem, a similar governmental system, but different solutions to the problem. A joint proposal has been submitted to the EU to compare the issues in the two countries, learn from the experiences and define relevant strategies to manage the issue. In addition to this publication, an information sheet with tailor-made information has been created.

This document is the second in the TBI-Ghana series 'workshop proceedings'. The main part consists of the presentations submitted by the speakers. These were only edited for style and consistency, but not for content. The editors have tried to objectively represent the views of the participants that were given in the discussion. The opinions expressed in this publication are those of the authors and participants and do not necessarily reflect the views of TBI-Ghana.

ACKNOWLEDGEMENTS

The workshop ‘Chainsaw lumber production: a necessary evil?’ could only become a success with the support of many people. We wish to express our gratitude to all involved in some way or another. We trust that those who were not specifically mentioned by name will accept our thanks for their involvement and support to the workshop.

All speakers are thanked for their presentations. Our sincere gratitude goes to the honourable Minister of Lands and Forestry, Professor Dominic Fobih for his keynote address. We were pleased with his readiness to share his thoughts about the chainsaw issue with the audience of the seminar.

Special thanks also goes to Dr. E.Y. Djokoto for the challenging task of chairman, which he performed excellently.

We are indebted to participants for their presence and rich contributions during the group discussion.

To the entire staff of Tropenbos International Ghana, ‘ayekoo’ for your immense efforts in the organisation of this workshop.

Finally, we wish to thank all readers of these proceedings for showing interest and commitment in helping solve the problem of chainsaw lumbering in Ghana.

SUMMARY

Ghana's tropical high forest has decreased by 80% percent in the past 100 years. Many accusing fingers are pointing to illegal chainsaw practices as one of the key causes. In an attempt to curb the situation the government has put a ban on chainsaw lumbering. This ban has not realised an improved situation and each actor in the process blames other parties. In TBI-Ghana's focus group discussion on chainsaw lumber production, different actors came together to discuss the issue and come up with a workable way forward.

The Minister of Lands and Forestry in his keynote address talked about the measures having been taken by his ministry in halting the illegal activities. Examples of such measures are the log tracking program, alternative livelihood scheme for chainsaw operators and mobile mills. He ended his address with the assurance that the ministry would dully consider suggestions that come out of these discussions.

Mr. J.E. Otoo, the acting Chief Executive of the Forestry Commission, went a step further and talked about the implementation of the measures mentioned by the minister. He called on all key stakeholders to cooperate with the forest sector agencies to effectively control illegal chainsaw activities.

Mrs Edith Abroquah, Forest Services Division, explained the measures and the constraints to curb chain sawn lumber production and the degree of success. To overcome the situation she suggested that commercial markets should be attacked to rid the markets of all chain sawn lumber, the situation of the community forestry committees and the community based organisations that help curtailing the chainsaw menace should be improved, the government should assist individuals and groups to acquire forest mills or to go into reforestation and she suggested the review of some laws.

Mr. Emmanuel Marfo, a researcher from Forestry Research Institute of Ghana, talked about the conflicts over chainsaw lumbering and the coping strategies of actors.

Dr. Agyeman's presentation was on illegal chainsaw operations: impact, constraints, challenges and policy reform. He stated that the development and implementation of comprehensive measures to address the problem of chainsaw processing could only be successful if all stakeholders were adequately involved in the decision-making process, including the monitoring of timber harvesting. In addition, the domestic market should, to a large extent, be subjected to market driven instruments.

Henry G. Coleman, Timber Industry Development Division, informed the audience about the gap in demand and supply of lumber on the local market. This is filled illegally with chain sawn lumber and illegally sourced logs. This situation threatens the sustainability of the country's forest resources, so he sees the need for the Ministry of Lands and Forestry, the Forestry Commission and its agencies to re-enforce and sustain measures put in place to counteract the activities of these illegal chainsaw lumber operators.

Mr. Attah Owusu, Ashanti Regional Forestry Manager, counted the costs in halting chainsaw lumber production. He talked about the economic, social and environmental costs. He stressed that the issue of chain sawing is no longer only a forestry issue but a social one and so it needs to be discussed in that context.

Mr. E.E.K. Acquah-Moses, Executive Secretary of the Ghana Timber Millers Organization, talked about the problems the millers encounter. He saw a potential in the use of lesser used species, he suggested the reduction of lumber exports so that the excess goes to local supplies,

he advocated efficient use of timber and he promoted massive and well-coordinated plantation and afforestation.

Dr. K. Frimpong-Mensah, Institute of Renewable Natural Resources, presented the results of his study in the presentation ‘Chainsaw lumber production is wasteful, fact or myth?’. Chainsaw operators carry finished boards or beams out of the forest using narrow paths, which causes minimum disturbances to the forest, when compared to the destruction caused by the conventional logging and harvesting methods by sawmills. The average lumber conversion efficiency of the chainsaw is 40% compared to 39% in some sawmills in Kumasi. This means that chainsaw lumbering may not be wasteful as we may think. These notwithstanding a lot of useful logs, branches and top ends are left in the forest to rot.

In addition to the expert presentations, Woodworking Machine Owners and Operators Association and chainsaw operators shed lights on the issue from their points of view. Generally, they see chainsaw operations as a necessary evil and suggested that chainsaw operators should be registered.

From the discussion, the majority of the participants agreed that there should be a second look at the status quo of chainsaw lumber production since its still going on in spite of the ban. The participants realise that there should be a thorough research into the pros and cons of legalising chainsaw lumber production.

1. INTRODUCTION TO THE WORKSHOP

1.1 BACKGROUND

The forest estate of Ghana performs essential services such as biodiversity conservation, water regulation and carbon sequestration; it also provides the survival needs of millions of Ghanaians as well as supporting the national economy. But for some time now, there has been a serious concern both national and international about the rapid depletion of the resource. Reasons advanced for this in addition to rapid population expansion, clearing of forest for agricultural purposes and bushfire include illegal timber harvesting both by logging companies and chainsaw operators, connivance between forest managers and users of the resources, naked corruption, absence of definite policies that are enforceable, the suspension of timber utilisation contracts (TUC) and failure to grant new TUCs as well as abuse of timber utilisation permits (TUPs).

Efforts to redeem the resource from total extermination included a total ban on chainsaw lumber production. Enforcement of this ban has brought about confrontations between the perpetrators of the act and the law enforcement agencies resulting in loss of lives and limbs as well as property. Prominent among the effects are loss of jobs by numerous people involved in the chainsaw lumbering trade and shortage of lumber on the local market resulting in high and soaring lumber prices and scarcity of lumber on the local market.

Against this background, very good arguments have been advanced both for and against the ban on chainsaw lumber production. It is an open secret that chainsaw lumbering is still hot in the system and the ban has only driven it underground. According to Brikorang¹ (2001), total extraction of timber is estimated in excess of 300% of the sustainable harvesting levels. It is also claimed that the Ghana government incurs significant economic losses and large economic and social damages to local communities as a result of the evasion of taxes by chainsaw operators. In spite of the statutory provision that 20% of all processed lumber should be sold on the local market, lumber supply from the mills to the local market is very small indeed and this results in a reduced supply of lumber to the local market.

Interestingly, farmers are happy with the operations of the chainsaw operators because appropriate compensations are paid to them directly and promptly. Moreover, less damage is caused to their crops during extraction because the processed wood is head-loaded instead of the use of heavy equipment that has the potential to destroy soil structure in addition to trampling upon crops. Besides, chainsaw operators process timber for local consumption, sell products to local markets, schools and hospitals, which is an added advantage since those from the mills are pricey.

All these issues supported the need to openly discuss the issue of chainsaw lumber production in the wider context of long term lumber supply to the local market.

This report is the output of a day's workshop sponsored and organised by Tropenbos International-Ghana on November 11, 2003 at the conference hall of Wood Industries Training Centre, Akyawkrom, near Ejisu.

¹ Birikorang G. 2001 Ghana wood industry and log export ban study (final report), Forestry Commission

1.2 WORKSHOP OBJECTIVE

The objectives of the workshop were to:

- Make all stakeholders aware of the magnitude of the problem of chainsaw lumbering
- Provide a neutral ground for all stakeholders to dispassionately discuss the issue with the view to soliciting inputs to address the menace.

1.3 WORKSHOP METHODS

The methods used at the workshop included presentation of technical and position papers, group discussion and a plenary discussion. The programme for the workshop is attached as Appendix 2.

The invited technical papers included the following:

- Chainsaw lumber production and sustainable forest management
- Measures to curb chain sawn lumber production and the degree of success
- Coping with illegality: conflicts over chainsaw lumbering and coping strategies
- Halting chainsaw lumber production: counting the cost
- Lumber supply to the local market: from policy to practice
- Chainsaw lumber production is wasteful, fact or myth?

The different stakeholder groups also had the opportunity to present their position papers.

The important issues presented and discussed during both the technical and stakeholder presentations of the first two sessions formed the framework of the group discussions. The results of the group discussions were presented at the plenary session for comments from participants.

1.4 WORKSHOP ATTENDANCE

The workshop attracted ninety-four participants from Ministry of Lands and Forestry, Ministry of Environment and Science, Forestry Commission Board and all its divisions, research institutions, security agencies, non-governmental organizations and wood sellers and consumers. Also present were sixteen pressmen from both the print and electronic media agencies. The high level patronage of the workshop signifies the relevance of the theme “Chainsaw lumber production, a necessary evil?” (See Appendix 1 for list of participants)

2. OPENING SESSION

2.1 CHAIRMAN'S REMARKS

The Chairman, Dr. Djokoto in his introductory remarks thanked the organisers of the workshop for the opportunity given him to chair the meeting. He emphasised that the problem of chainsaw lumbering has assumed an international dimension and therefore called for the need to ameliorate the dangers, injuries and harm these activities pose to the general public.

He said the theme makes him look at the issue from the seriousness it poses to sustainable forest management in the country. He therefore urged all participants to discuss issues openly, thoroughly and with the frankness they deserve so that at the end of the meeting the house would find amicable solutions to the issue.

2.2 WELCOME ADDRESS

By Mr. K. S. Nketiah, Tropenbos International-Ghana

Mister Chairman, Hon. Minister for Lands and Forestry who is also the Member of Parliament for Assin, members of the FC Board, member of TBI International Board, heads of forestry sector institutions and representatives of key stakeholders of the timber trade and industry, distinguished ladies and gentlemen, members of the press, I am greatly delighted to see so many high profile personalities here assembled to discuss a very critical issue.

Today's meeting is not yet another workshop, which like many eventually ends up being a talk shop. We have invited all here to discuss the thorny issue of chainsaw lumber production under the theme "chainsaw lumber production, a necessary evil?"

We have invited paper presentations from selected major stakeholders. Other stakeholders will also be given the opportunity to present position papers on the issue.

The complexity of the issue can be likened to the proverbial bird 'asantrofié anomaa', which when caught spells a curse but allowing it to escape means throwing away a fortune.

We have in our midst the sector minister, the Forestry Commission Board, heads of institutions, chainsaw and machine operators, timber sellers and wood consumers, notably people in the building and construction industry. We also have researchers, forest managers, environmental NGOs and other stakeholders.

The issues to be discussed include the following:

- Sustainability of the resource base
- The ban on chainsaw lumbering
- Difficulties in enforcing the ban
- Demand and supply of lumber to the local market
- Jobs created by chainsaw lumbering

2.3 KEYNOTE ADDRESS

By Prof. Dominic Fobih, Honourable Minister of Lands and Forestry

Mr Chairman, invited guests, ladies and gentlemen, thank you for the warm welcome that has been extended to me. I am highly delighted to be with you to deliberate on the theme "Chainsaw lumber production, a necessary evil?"

Mr Chairman, under the legislative instrument, Trees and Timber (Chainsaw operations) Regulation, 1991 (L. I. 1518) the activities of chainsaw operators were legally recognised and they were supposed to be regulated by the district assemblies and the then District Forestry offices at the local level. However due to widespread abuses of the system, especially by the district assemblies, the situation was reviewed in 1995. The regulatory measures against chainsaw operations were further reinforced by the prohibition of chainsaw operations under the Timber Resources Management Act, 1997 (Act 547) and its accompanying Timber Resources Management Regulations, 1998 (L.I. 1649). These laws completely outlawed chainsaw lumbering activities in the country and consequently the Trees and Timber (Chainsaw operations) Regulation, 1991 (L. I. 1518) was repealed. Despite the enactment of Act 547 and L.I. 1649, which outlawed chainsaw operations in the country, the problem still persists and in fact it is on the ascendancy.

Mr Chairman, the problem of illegal chainsaw operations has of late assumed alarming dimensions and proportions. It has been estimated in the most recent studies that out of the 2.7 million cubic metres of timber which is harvested annually from our forests, illegal chainsaw operations alone account for 1.5 million cubic metres².

Besides the non-payment of stumpage and other statutory fees by chainsaw operators, these chainsaw operators have contributed to the depressed domestic prices, thus making it a disincentive for legitimate timber processors to deliver lumber and other wood products to the domestic market. In addition, there are negative environmental consequences which often result from the operations of these illegal timber operators who most often harvest timber in areas reserved for biodiversity and other environmental purposes like the protection of watersheds and checking of soil erosion.

Mr Chairman, the ministry has critically examined the situation and all the pertinent issues involved and on the basis of past experiences, has accordingly decided to adopt a more positive and proactive approach to the resolution of the problem. It has been realised that chainsaw operations under its present form cannot be sustained or controlled within the limits of the Timber Resources Management Act, 1997 (Act 547) and Timber Resources Management Regulation, 1998 (LI 1649).

It has therefore been decided that chainsaw operators will be accommodated under the law in the following programmes:

- Creation of alternative livelihood schemes for the absorption of some of the large number of illegal chainsaw operators. These schemes include the involvement of the operators in plantation thinning, forest boundary demarcation and clearing, coppice management of existing forest plantations, land clearing and other associated activities pertaining to the on-going national forest plantation development programme.
- Timber companies will be encouraged to employ some of the chainsaw operators to assist them in the harvesting and cross cutting of timber in more difficult areas where conventional logging equipment cannot be used for such harvesting operations.
- In addition, preference will also be given to known chainsaw operators who have the means to invest in the establishment of mobile mills in strategic locations in the various

² According to Birikorang (2001), studies done in 1999 revealed that total annual timber harvested was 3.72 million m³. Illegal harvesting and chainsaw lumbering contributed 0.925 million m³ and 1.696 million m³ respectively.

localities in the country. This will help the more resourceful ones to invest and thus make honest living in the small-scale wood processing industry.

- The ministry is also exploring the feasibility of charging chainsaw operators all the statutory fees and charges for the grant of access to the resource to fell and crosscut trees just as the legitimate logging and sawmilling companies.

Mr Chairman, the programmes outlined above will be backed by massive public education through both print and electronic media in order to ensure that all relevant stakeholders are brought on board in the successful implementation of the various programmes as outlined.

The ministry has also taken appropriate measures to ensure that adequate quantities of mill-sawn lumber and other wood products to meet the needs of the domestic market are available. Subsequently, the Forestry Commission has been requested to draw up a comprehensive programme to link up all wood dealers with the various sawmills where the stock of timber are located to enable them source their lumber for sale to the general public from the mills.

In addition, district assemblies have been requested to submit proposals on the siting of mobile mills in strategic locations within their districts for the production of lumber to feed their localities. These mills will be granted timber utilisation permits in order to guarantee their raw material needs. The permits will be renewed annually subject to the satisfactory performance and they will be required to submit Value Added Tax and other documentary evidence before permits are renewed for them.

In order to find lasting solution to the illegal chainsaw problem, the ministry is working on appropriate benefit sharing mechanisms between the government, chiefs, forest fringe communities and local communities as one of the measures to ensure effective collaboration with all stakeholders in the sustainable management of the country's forestry resources. Steps are also being taken to ensure that resource owning chiefs, forest fringe communities and rural communities effectively collaborate with the Forestry Commission in the protection of the forests and also to ensure that these stakeholders receive adequate and remunerative benefits for their efforts.

The ministry is also currently holding consultations with the Attorney General and Minister of Justice in order to ensure that illegal chainsaw offenders are speedily brought to trial by the courts and deterrent sentences and fines are administered as prescribed by law.

Mr Chairman, as one of the biggest consumers of lumber and other wood products in the country, the Ministry of Works and Housing, Regional Coordinating Councils and district assemblies will be requested to direct all contractors working on government projects to source their lumber from the mills or any other legitimate sources.

The ministry is aware that some disgruntled officers of the Forestry Commission are responsible for the ascendancy of these illegal activities. This situation is being monitored and investigations are being conducted to identify such officers for disciplinary measures to be taken against them as prescribed by the law.

Ladies and gentlemen, taking measures to stem the spate of illegal chainsaw activities would also involve the implementation of a credible log-tracking programme in order to effectively monitor the felling and the transportation of timber from the forest to the processing centres. A log-tracking system has also been put in place on pilot basis since 2000 and it will soon be extended to cover the whole country.

Mr Chairman, ladies and gentlemen, these are the measures being taken by my ministry in solving these illegal activities. Your suggestion at the end of your deliberations will be dully-considered by the ministry. On this note, I wish you fruitful deliberations.

2.4 CHAINSAW LUMBER PRODUCTION AND SUSTAINABLE FOREST MANAGEMENT

By Mr. J. E. Otoo, Acting Chief Executive of the Forestry Commission

Mr Chairman, Honourable Minister, Honourable members of parliament, members of the Forestry Commission Board, distinguished guests, team leader Tropenbos International-Ghana, members of the press, ladies and gentlemen.

I wish to take this opportunity to open up discussions with all stakeholders gathered here to seek your views and understanding on the issue of chainsaw lumber production and the effects on sustainable forest management as well as the constraints being faced by the forestry sector in addressing the problem of illegal chainsaw activities.

Mr. Chairman, chainsaw lumbering activities over the past few years have become a major economic activity and generates employment in most deprived rural areas in the high forest regions of the country. Currently it is estimated that the chainsaw activities provide employment for approximately 50,000 people in the country. A recent study by the Forestry Commission (2001) indicated that 1.7 million m³ (46%) out of the total amount of 3.7 million m³ were harvested by illegal small-scale chainsaw operators.

Timber utilization contracts (TUC) or concession allocations, which were suspended in the early 1980s, are now being allocated on competitive bidding basis. Prior to this, there has been an upsurge of illegal timber felling activities, particularly chainsaw operations. This is because most of the TUC areas are currently unencumbered or unallocated and are not properly secured or protected.

There have been previous attempts to control chainsaw operations. Due to a variety of reasons, the ban on chainsaw operations has not been effectively enforced which undermines the government and for that matter the Ministry and its forestry sector institutions credibility. This has given rise to the perception of lack of capacity to sustainably manage the already dwindled forest resources of the country.

Mr. Chairman, the profile of government policy within the past decade on chainsaw operations is characterised by the following positions adopted between 1994 and 1998 to address the problem of chainsaw operations in the country.

A legal provision accommodating chainsaw operations is found under Trees and Timber (Chainsaw Operations) Regulations, 1991 (L.I.1518). The regulations were consolidated in the "Interim measures to control illegal timber harvesting outside forest reserves" of 1994. Under these regulations, the activities of chainsaw operators were legally recognised and their activities were supposed to be regulated by the district assemblies and District Forestry Offices at the local level. Their supervision was completely decentralised under this management regime.

However, due to widespread abuses of the system especially by the district assemblies and expression of grave concern about indiscriminate felling of trees under this system, the situation was reviewed and deployment of timber task forces to check abuses was initiated after 1995.

Mr. Chairman, the regulatory measures against chainsaw operations were further reinforced by the prohibition of chainsaw operations under the Timber Resources Management Act, 1997 (Act 547) and its accompanying Timber Resources Management Regulations, 1998 (L.I.1649, Section 32 (1&2)).

These laws completely outlawed chainsaw lumbering activities in the country and consequently the Chainsaw Operations Regulations, 1991 (LI 1518) was repealed. Despite the enactment of Act 547 and LI. 1649, which outlawed chainsaw operations in the country, the activity still persists and in fact it is on the ascendancy.

The current measures to address the issue are:

- Accommodation of chainsaw operators under alternative livelihood programmes:

It was realised that chainsaw operations under its present form cannot be sustained or controlled within the limits of the Timber Resources Management Act, 1997 (Act 547) as amended by the Timber Resources (Amendment) Act, 2002 (Act 617) and Timber Resources Management Regulations, 1998 (L.I. 1649).

It has therefore been decided that chainsaw operators will be accommodated under the law to engage in alternative livelihood programmes that are being outlined for them as indicated below:

- Forest plantation thinnings
- Forest boundary demarcation and clearing
- Forest plantation coppice management
- Land clearing and other related activities on the ongoing national forest plantation development programme
- Assisting timber companies in timber harvesting operations in more difficult areas
- Recovery of timber off-cuts in the forest

In addition to the above, preference will also be given as much as possible to registered chainsaw operators who have the means to invest in the establishment of these mobile mills in strategic locations in the various localities in the country. This will help the more resourceful ones to invest and thus make their living in the small-scale wood processing industry.

The programmes outlined above will be backed by massive public education on the issues at stake through both print and electronic media in order to ensure that all relevant stakeholders are brought on board in the successful implementation of the various programmes as outlined.

- Addressing the demand side of the problem, plans have been drawn up to advertise in both the electronic and print media, giving a three-month grace period for all dealers in chainsaw lumber to dispose off their existing stocks of timber. During the grace period, workshops will be held in strategic locations in the country to sensitise the various stakeholders and the general public on the problems associated with chainsaw operations. After the grace period all chainsaw lumber that will be found in the various markets will be confiscated to the state and the dealers prosecuted in court as prescribed by law.
- The Forestry Commission will draw up a comprehensive programme to link up all wood dealers and or sellers with the various sawmills where the stocks of timber are located, to enable the dealers source their lumber and other wood products for sale to the general public. The Forestry Commission has been requested by the ministry to liaise with the various district assemblies to submit proposals on the siting of mobile mills in strategic locations within their respective districts for the production of lumber to feed their localities. These mills will be granted timber utilization permits as a means of guaranteeing their raw material needs. The permits will be renewed annually subject to the satisfactory performance of each mill and companies will be required to submit VAT and other documentary evidence before permits are renewed for them.
- With regard to benefit sharing it has been identified that irrespective of its size, payment to farmers by chainsaw operators are made upfront. This is very attractive from the farmers' perspective as compared to obtaining a share of the royalty payment if the

harvest were sanctioned. The chainsaw business thus comes closer to community households, at least in decision making on exploitation of trees and meeting the immediate and short-term needs of households for timber. In order to find lasting solutions to the chainsaw issue, cabinet has now approved appropriate benefit sharing mechanisms between the government, chiefs, forest fringe communities and local communities for implementation. This is to ensure effective collaboration with all stakeholders in the sustainable management of the country's forest resources.

- There is the need for the district assemblies which are one of the key stakeholders and thus receive a substantial share of the forest revenue to cooperate with the forest sector agencies in ensuring that the above measures are effectively implemented in order to ensure sustainable management of the country's limited forest resources for the benefit of all.
- The Forestry Commission is collaborating more effectively with the judiciary, law enforcement agencies, the traditional rulers and other stakeholders to ensure that illegal chainsaw offenders are speedily brought to trial by the courts and appropriate as well as deterrent sentences and fines are administered as prescribed by law.
The legal unit of the Forestry Commission corporate headquarters, Accra has organised a series of workshops and seminars for the police and judiciary to build the capacity of the law enforcement agencies to minimise forest offences and illegal practices.
- It is an irony to find that whilst the Forestry Commission is making all efforts to ensure that chainsaw lumber is flushed out of the local market some government projects are executed with the use of chainsaw lumber. The Forestry Commission will therefore ensure that the Ministry of Works and Housing, Regional Coordinating Councils and district assemblies direct all their contractors working on government projects or any public construction activities should source their lumber from the mills or any other legitimate sources.
- The Forestry Commission is also taking concrete steps to enforce the Timber Resources Management Act, 1997 (Act 547), section 17, subsection 1, 2, 3, & 4 and the Timber Resources Management Regulations, 1998 (L.I. 1649), Regulation 41, Sub-regulation a-i which states among others that "Public officers who commit offence with regard to illegal timber operations are liable on summary conviction to a term of imprisonment of not less than 6 months and not exceeding 2 years without the option of a fine."
- The implementation of the log tracking system will curb illegal forest operations and ensure sustainable forest management by controlling harvesting, transporting, processing and exportation of forest products.

Mr. Chairman, ladies and gentlemen, in conclusion, it is expected that with the successful implementation of these measures, the problem of illegal chainsaw operations and other illegal forest activities will be minimised and eventually eliminated.

All key stakeholders and other forestry-related government agencies are therefore requested to cooperate with the forest sector agencies to effectively control illegal chainsaw activities and other forest offences to ensure effective utilization of forest resources and derive optimum benefits to the country and the resource owners. This will reduce the poverty of the masses of our population who depend on the resource for their livelihoods.

2.5 MEASURES TO CURB CHAIN SAWN LUMBER PRODUCTION AND THE DEGREE OF SUCCESS

By Mrs Edith Abroquah, Forest Services Division

Background

The Timber Resources Management Act, (Act 547) and the Timber Resources Management Regulations (L. I. 1649) which banned the processing and sale of chain sawn lumber were passed in December, 1997 and November 1998 respectively. The relevant sections of the Act 547 and the LI 1649 that ban trading in chain sawn lumber are as follows:

- Specifically Section 17 (2) of Act 547 specifies that any person who :
 - Harvests timber to which this Act applies without a valid timber utilization contract; or
 - Operates or causes to be operated a vehicle to carry, haul, evacuate or transport timber harvested in contravention of this Act; or
 - Offers for sale, sells or buys timber harvested in contravention of this Act; or
 - Stocks timber harvested in contravention of this Act; or
 - Carries, hauls or evacuates by non-mechanical means any timber harvested in contravention of this Actcommits an offence and is liable on summary conviction to imprisonment for a term of not less than 6 months and not exceeding 2 years.
- Similarly Section 32 (1) of LI 1649 states that “No person shall use a chainsaw whether registered or unregistered, to convert into lumber or other forest products for sale, exchange or any commercial purpose”.
- In addition Section 32(2) states, “No person shall sell or buy timber products to which sub-regulation (1) applies”.
- Again Section 41 (1) states that “Any person who- (g) sells or offers for sale any lumber cut with a chainsaw contrary to regulation 32 (2) commits an offence and is liable on summary conviction to a fine not exceeding 5 million cedis or to imprisonment for a term not exceeding twelve months or to both and, where the offence continues to a fine not 100,000 cedis for every day or part of a day during which the offence continues”.

In effect, the law prohibits the:

- Use of chainsaw machines to convert timber into products for sales; as well as
- Sale and purchase of chain sawn lumber.

Since the enactment of the laws about six years ago, the public has been cautioned on the dangers in dealing in chain sawn lumber but the situation has not changed for the better.

Strategies used in implementing the law seek to:

- Ban the use of chainsaw machines in processing lumber or other timber products for sale, exchanged or any commercial purpose;
- Educate the general public on the illegality of dealing in chain sawn lumber; and
- Link bench top timber millers and dealers in lumber directly to sawmill products.

Consequently, the production and sale of lumber on the local market follow the normal production chain:

- Chainsaw machines are to be used strictly to harvest and crosscut timber trees;
- Sawmills or bush mills are to be used in processing logs into lumber (beams or boards) to intermediate and/or final demands; and
- Bench-top millers will continue to process beams or boards into various sizes and lengths to meet consumer demands.

As stated earlier, the implementation of the law has not been an easy task.

Measures instituted by Forest Services Division

- A buffer stock of sawmill lumber was created and under this the following activities were undertaken.
 - The Forest Services Division identified sawmills at strategic locations in the high forest zone to supply sawmill lumber to the local market in order to ensure sustainable supply of sawmill lumber.
 - Sawmills made a declaration and completed monitoring formats to be certified by Forest Products Inspection Division (FPID) that 20% of their lumber production will be set aside for the supply to the domestic market.
 - Compliance with the law was to be used as a condition for renewal of property marks. Small off-forest reserve areas were released to distressed but reliable mills to ensure a sustained supply of sawmill lumber to the local market according to a set of laid down criteria.
- The staff of the Forest Services Division monitor the activities of chainsaw operators and arrest operators and transporters. This activity is done with the assistance of the police and in some cases the military. Monitoring teams operate at both the regional and district levels. The teams check the chainsaw operators by impounding chainsaw machines and chain sawn lumber. In addition to this, the culprits are sent to court or they are made to pay penalties. Some Chiefs have been very supportive and a particular example is the Okyeman brigade initiative in the Eastern region.

The monitoring teams fail to achieve their objectives completely and the operations are sometimes frustrating because transporters for example use several side routes and manage to outwit the teams. The Forest Services Division staff as well as police and military men who participate in monitoring activities are sometimes brutalised, beaten, shot and in some cases vehicles are set ablaze. However, there are alleged cases of operators and transporters bribing the Forest Services Division staff and the police in order to get the products to the markets.

Major constraints to measures instituted by Forest Services Division

- Chain sawn lumber is accepted at market centres as legal commodity contrary to existing laws, thus the issue of no sale and no purchase of the product is flouted. This is because there is high demand and the prices are cheap.
- Illegal dealers carry out chainsaw operations under armed conditions in the night while monitoring is done with little or no logistics.
- Impounding of vehicles carrying illegal lumber and low court fines does not deter so much when arrested.
- Attitude of communities with regard to their collaboration with the illegal dealers against FSD – as they get paid for carrying illegal lumber for the illegal dealers. They therefore support the illegal dealers to attack forestry staff in their attempts to check illegal lumber activities. Cases on deaths, damaged vehicles and so on remain under investigations at police stations or pending at courts.
- Chainsaw dealers have the equipment to process lumber into desired shapes to meet consumers' taste – re-sawing to desired taste and moulding among others.

Suggestions to overcome the situation

- The Forest Services Division envisages that commercial markets should be attacked to rid the markets of all chain sawn lumber. However this is likely to raise public outcry hence proper preparation needs to be done to accomplish this. When chain sawn lumber is removed from the market then anyone in possession can be challenged to prove the source of his/her product. Again when there is no chain sawn lumber on the market, saw millers will be forced to supply the local market.
- Stakeholders need to be brought together to discuss the chainsaw issue and arrive at workable suggestions e.g. the communities could obtain permit and purchase mobile mills to operate and supply areas further away from sawmills.

- The Forest Services Division has trained Community Forestry Committee (CFCs) and Community Based Organisations (CBOs) to assist in the protection of the resources at the local level. Currently, the CFCs are perceived as enemies in some communities and are not given the needed co-operation to operate. These negative tendencies must be addressed to improve the situation of the CFCs and the CBOs to curtail the chainsaw menace.
- Government should assist individuals and groups to acquire forest mills.
- Government should buy chainsaws in the system and thereafter support their respective owners to go into re-forestation.
- Penalties are often not imposed to deter illegal dealers and impounded vehicles from indulging in further illegal sawing activities. The laws appear unrealistic in the penalty imposed by the magistrates and judges -1000%, 500% and 100% of market value illegally sawn lumber. This aspect of the law needs to be reviewed since it attracts penalty to the commission and not fines. It is not clear in its definition as opposed to previous laws which categorically stipulated compensation to FSD aside court fines.

2.6 COPING WITH ILLEGALITY: CONFLICTS OVER CHAINSAW LUMBERING AND COPING STRATEGIES

By Emmanuel Marfo, Forestry Research Institute of Ghana

Introduction

The larger public interest in conflict has neither been matched by a more sophisticated understanding of its origin and dynamics nor by increased insight into how to deal with it in policy and practice (CERES, 2001³).

Today, one of the issues in forest resource management in Ghana that has hotly been debated, contested and labelled as inimical to the seemingly globally ordained doctrine of sustainable forest management (SFM) has been chainsaw operation. To those who perceive chainsaw operation as threatening SFM from the perspective of their own interest, they call it a 'problem', but to us who see it as a continuous struggle and competition over access to scarce natural resources we call it a conflict. I consider the chainsaw issue as a conflict⁴ because all the actors involved perceive the action of others as impairment to their interest in the use and management of forest resource. This struggle mainly has been between the state and its implementing agencies and the 'recalcitrant' citizen who attempts to access timber resources by using the chainsaw.

If the state is a theatre in which resources, property rights and authority are struggled over, then state policies embody that struggle, often facilitating the interests of powerful economic elites, and inculcating both social unrest and ecological degradation (Bryant, 1992:18)⁵.

The state exists to solve two fundamental and inevitable human dilemmas: the problem of social order and the management and distribution of material and cultural resources (Faulks, 1999)⁶. The state is central to the debate of resource conflict and their management because it is the political institution most capable of concentrating those resources necessary to the exercise of economic, communicative and military power. As the most powerful site of power, to use Faulks' language, controlling military, communicative, economic etc resources with the liberal perception of it as protecting the right of its citizens, it has often been considered as a neutral guardian and arbiter in conflict management. However, several studies⁷ have shown that in dealing with the question of power in the context of forest conflict, the state must be regarded as an active actor. This is because it is a historical agent changing its form through time and by social structuring. In Ghana, the history behind forest reservation and state control of forest resources is a good example.

At the same time, there is large growing body of literature that shows that the citizenry of the state have contested the immortality and supremacy of the state by several means, overt or covert, legal or illegal. Perhaps we should summarise this in the words of James Scott as 'using weapons of the weak in everyday forms of resistance'⁸.

Why has the chainsaw conflict progressed for so long and why does it seem to be escalating today? Why has the state, with all its access to resources of power not been able to overcome it? The answer, perhaps underestimated by many, is that there is a power play between the

3 CERES, 2001. Position paper on violent conflict reconstruction Wageningen CERES. Programme for innovative PhD research guidelines, Wageningen University

4 Conflict is a situation when the behaviour of an actor is experienced by another as impairment due to differences in interests, values and perceptions (Glasl, 1997)

5 Raymond Bryant (Political Geography vol. 11, No. 1, January 1992, 12-36)

6 Keith Faulks. 1999. Political sociology, a critical introduction. Edingburgh University Press

7 See various papers in: Doornbos, M., Saith A. and White B (eds.). 2000. Forests, nature, people, power. Blackwell Publishers, UK.

8 James Scott. 1985. Weapons of the Weak. Everyday forms of Peasant resistance. New Haven and London: Yale University Press.

state law and citizenry's defiance and 'deviance'. How can we then understand the conflict? I argue that we must deconstruct the discourse of chainsaw operation to explore the coping strategies and reconcile them with the opportunities and constraints that policies and practices in our current political economy offer.

In this paper, I intend to use the conflict over timber resource access through chainsaw operations in Ghana to demonstrate the complexity surrounding actor empowerment or coping strategies in forest conflict. Particularly, how the state has used the law as an empowerment resource to define actions of competing actors as illegal and how such actors have coped with their illegality status. First, the paper argues that the chainsaw discourse in Ghana is a typical scenario of resource conflict, with the state as an actor and not a neutral third party. Second, the paper, based on some ongoing empirical investigations, elaborates how the actors in the conflict have coped and are coping. Thirdly, an analysis of circumstances in the Ghanaian forest policy landscape that have constrained or enabled the execution of contextual actors' empowerment machinery is briefly presented. Finally the implications of the above for resource governance and research in the area of timber resource access are highlighted.

Producing chainsaw lumber as a conflict

Before the development of the concession system farmers had rights to the trees on their land (see Amanor 1996⁹). It has been noted that farmers sold trees to pitsaw operators in return for one-third of the sawn beams or their equivalent value (Amanor, 2002¹⁰). With the expansion of timber exploitation, concessionaires sought to secure the timber on lands in farming areas. This was achieved through the creation of an invented tradition that timber resources belonged to the chiefs of the domain (Amanor, 2002). This was formally enacted in the Concessions Act 1962, which vested all trees in Ghana, both on and off-reserves, in the President to manage on behalf of the chiefs and landowners.

This development changed access to timber from direct negotiation with landowners to bureaucratic procedures with the state and its forestry agencies thus criminalizing landowners/farmers right to own and dispose of trees on their land/farms. Obviously, this was not received well by chiefs and landowners and there is evidence to show various forms of resistance (see Kotey et al, 1998¹¹). The centralisation of grant of timber rights by the state bureaucracy and the criminalization of the any other means of granting timber rights did not however criminalise the use of chainsaw to harvest and process logs to lumber.

However, with the emerging paradigm of sustainable forest management and utilization the state's economic and environmental interest in forest resource conservation was impaired by the growing chainsaw operations for harvesting and processing.

By the end of 90s, although the state had succeeded in criminalizing farmers and local peoples' right to own and dispose of trees on their farms, the implication for enforcement of the legislation was a massive staff to monitor 'illegal' logging by farmers and their accomplices. In the absence of the capacity of the state to monitor and enforce the law, not much actually changed on the ground. Amanor (2002) observes that, in many areas, small-scale extraction of timber on farmlands by pitsawyers and chainsawyers continued till the 1990s.

9 Amanor, K.S. 1996. *Managing Trees in the Farming System: The perspectives of farmers*. Forest Farming Series no. 1, Forestry Department, Kumasi.

Amanor, K. 2000. *Farmers, Forestry and fractured environmentalism in Ghana's Forest zones*. In: *Contesting Forestry in West Africa*, edited by Cline Cole, R. and Madge, C. Aldershot: Ashgate

10 Amanor, K.S. 2002. *Natural Assets and Participatory Forest Management in West Africa*. Political Economy Research Institute, Conference Paper no.8.

11 Kotey, E.N.A., Francois, J., Owusu, J.G.K., Yeboah, R. Amanor, K.S. and Antwi, L. 1998. *Falling into place. Policy that works for forests and people series no. 4*. International Institute of Environment and Development, London.

The state coped with the situation using three main strategies:

- Centralizing control of trees off-reserves from the decentralised district assemblies, which issued permits and licenses for forest resource exploitation.
- Criminalizing the informal timber sector by legislation (L.I. 1518 of 1991) that bans the use of chainsaws in processing lumber into boards.
- Using punitive campaigns through the military against people who continue to produce chainsaw lumber (Amanor, 2002).

In the context of legislation, the threefold offence defining the illegality of chainsaw operations was further enshrined in the law as follows:

- *No person shall use a chainsaw for felling or converting timber unless the chainsaw has been registered with the District Forest Office in accordance with regulation 30¹²*
- *No person shall use a chainsaw whether registered or unregistered, to convert timber into lumber or other forest products for sale, exchange or any commercial purpose*
- *No person shall sell or buy timber products to which the above applies (L.I. 1649, s. 31, 32 (1) and (2) respectively)*

Coping with the illegality

'The law (literally) records the structure of the state and reflects (virtually) the distribution of political, social and economic advantages' Daniel Lev¹³.

Several studies¹⁴ suggest that the 'illegal' chainsaw operators have been able to contain the state, its laws and apparatuses to survive the struggle. In a recent study, Birikorang (2001) observes that 'the policy of chainsaw ban is unenforceable encouraging rent-seeking behaviour (corruption¹⁵) among Forestry Commission staff, local government representatives and government task forces'. He further observes that the presence of a de facto authority involving a triangular relationship and the lines of influences among the local stool, District Forest Officer and the community hinders forest policy through chainsaw activities.

In spite of legislations and punitive measures, Amanor (2002) has observed that the main timber supplies on the urban market are still sourced from chainsaw operators since concessionaires prefer to export their products.

'With prices rising on the urban market, chainsaw timber has become the preserve of highly organised illegal operations that have the influence to arrange all the necessary rents to pass through or evade checkpoints' (ibid: 16).

In order to understand how and with what means the chainsaw timber operatives have coped with the illegality, an investigative research was carried out using data from informal conversation¹⁶, other forest conflict studies¹⁷, observation and media reports to construct a narrative on the discourse¹⁸. Discourse analysis using simple content analytic technique was used to capture the various coping strategies and resources for empowerment deployed by the contextual actors.

12 Upon the registration of a chainsaw at the District Forest Office there shall be allocated to the registered chainsaw a timber registration number (L.I. 1649 s. 30)

13 Lev, D.S. 1985. Colonial law and the Genesis of the Indonesian State, Indonesia 40:57-75

14 A study by friends of the Earth International (1997) shows about one-third of logs are illegally harvested in Ghana. Again the study concludes that only 18% of all chainsaws were registered as required by the law. Foreign exchange losses due to illegal chainsaw operations are estimated at over USD 60,000 each month

15 Informal payment of approximately 12 billion Cedis made by chainsaw operators in 1999 was largely distributed to these beneficiaries.

16 The Anwlonga timber market in Kumasi was used to sample timber sellers for the conversation.

17 The data is from a study on farmer/community compensation conflicts with Timber men as part of the broader research project on forest conflict management. So far, about 60 farmers have been interviewed.

18 I follow Hajer's interpretation of discourse as specific ensemble of ideas, concepts and categorisations that are produced, reproduced and transformed in a particular set of practices through which meaning is given to physical and social realities (Hajer, M.A. 1995. The politics of Environmental Discourse. Clarendon Press, Oxford.)

Organization of the chainsaw business

The study shows that the chainsaw lumber conflict is more complex than the simplistic picture usually created. There are a number of actors whose agency is enrolled by chainsaw operatives. The term chainsaw operatives is a multi-faceted one which I use to describe all actors directly involved in using or causing chainsaws to be used to access timber and convert it into lumber. They involve timber sellers in towns and cities, chainsaw operators who own or use chainsaws to cut and convert timber in the bush and bushmen who are either private business men or hired persons of timber sellers who act as middle men between the timber sellers and their bush team.

The business alliance

Typically, a three-chain alliance among the operatives is formed. Some timber sellers depend solely on bushmen who supply them with bush cut, the market name for chain-sawn lumber. The bushman is either hired by the timber seller in which case the operations are sponsored by the seller or operates his own business by selling his bush cut to the timber seller. In the former case, the strategy in forming this alliance has been to engage people from specific communities as bushmen who serve as ‘fronts’ for the timber seller in their communities. Sellers for two reasons are increasingly adopting this strategy of using community members as fronts. First, it helps them to avoid cost of operations as timber price from farmers and compensation costs for destroyed crops are negotiated down because the bushman is a native. Second, it reduces cost and the hustle of identifying farmers or fallow lands with commercial timber species. The bushman, using his social contacts in his own communities is able to contact farmers and landowners and to mobilise local chainsaw operators and loading boys easier and faster than a timber seller coming from elsewhere.

‘If the farmer knows that you are from the city, they usually demand higher prices. Sometimes you have to pay something to the chief, forestry people and Assemblymen before you will be allowed to operate. Relying on bushmen and buying from them is relatively cheaper since they live in the bush and can negotiate at cheaper price’. (Timber man, pers. comm.)

Several versions of this strategy have emerged. First, there is the situation where the seller sponsors the bushman who will go and search, negotiate and get the bush cut to the market and sell it to the seller. In this case, the timber seller has nothing to do with the farmer where farm/land crops might have been destroyed. The Timber seller hires vehicle, pays the driver, gives ‘chop money’ and advance payment to operator to take care of ‘loading boys’. The bushman arranges any other cost of the operation such as payment of compensation for destroyed crops/properties.

Another version is the one where the bushman is independent and uses his own capital to finance his operations and sells to the traders. These are those who have advanced in the business. Another popular arrangement is the situation where the bushman finances the bush operations by getting the bush cut ready in the bush and come to look for sellers who can arrange transport and manage to get the lumber to the market. This strategy is known to be common with timber sellers who have advanced in the business and who are dealing with bushmen or operators who cannot arrange the necessary rents to convey the lumber.

Another alliance is formed directly between timber sellers and a chainsaw operator. Some timber sellers have purchased their own chainsaw and employed an operator. The operator searches for areas/farms with desired timber species and negotiates with the farmers for price and if on farm compensations. Many sellers are not using this strategy, as it is expensive since all costs are borne by the seller before the bush cut reaches the market. This option is gradually becoming unpopular since there is also the risk of the timber seller being implicated in case of arrest.

Business alliance on the ground

The study reveals that many bushmen and chainsaw operators have established business links with local actors, principally chiefs and farmers. Normally the farmers sell the tree to bushmen and sometimes they go to the bushmen to inform them of identified timber species. By providing this direct payment as a result of mutual negotiations, the chainsaw operatives are able to establish business network at the local setting. The operations at the local level are further strengthened by the fact that local people are engaged in the business as 'loading boys'.

The witch's strategy

Another natural situation that has provided good grounds for the chainsaw operatives is the darkness season. The chainsaw operation has become nocturnal, parallel to the practice of witchcraft in the night, for the obvious reasons of evading their opponents: the conservationist forestry officials, chiefs etc who do not possess the spirit, the energy and the eye to watch by night. I argue that the supposed opponents should be qualified with the term 'conservationist' because, it is wrong to universalise any agency, being it state or traditional, as indeed 'fighting' against chainsaw operatives.

Not only has the night operations been used as a strategy to evade arrest but also to reduce cost by evading payments of tree price and compensation to the farmer/chief/landowner. In short tree theft has become another strategy. This means the whole production process: cutting, sawing, packing, loading and conveying are carried out within the dark hours. The chainsaw operation is labour intensive and limited by time, meaning that the number of people involved may constitute a gang, which in itself is a threat.

Enrolling the agency of the state

A man's enemy is in his own household

After succeeding in cutting and converting timber into beams/lumber, the next impairment to the chainsaw operatives is how to convey and transport the beams to the so-called timber markets, usually in the towns and cities, or any other destination. In this journey, the forestry official, the police and CEPS official may inspect the vehicles and demand permit and conveyance papers, failure to produce these may result in confiscation, arrest and prosecution. Therefore, another scenario of conflict arises between chainsaw operatives and the state agencies in the enforcement of law.

The study shows that various strategies have been employed to deal with this conflict by principally defining obligatory passage points, to use Callon's¹⁹ language, to enrol the agency of the state apparatus.

A remark by an informant gives the thrust for elaboration.

When it comes to transporting the bush cut, that is where the problem is, normally, you have to lead the loaded trucks with a private car or a hired taxi to bring it the market.

By exploring the metaphor 'leading the truck', the study reveals the mystery surrounding the chainsaw lumber operations.

The first mystery is that of operation road. From the discussion the strategy is that a chainsaw operative travels in a car before the truck that has loaded the sawn lumber and alarms the truck of any imminent dangers such as police, CEPS and FPIB check points. If the truck is on an operative's operation road, it is less risky provided you are able to negotiate and make the

19 According to the postulate of *problematization*, an actor in a conflict who perceives other actors as potential for enhancing his position in the conflict will attempt to enrol their agency by positing the indispensability of his 'solutions' for their 'problems'. This is achieved when these others are channelled through the 'obligatory passage points' of practice, which the enrolling agency seeks to 'fix'. See **Callon, M.** 1986. Some elements of sociology of translation: domestication of the Scallops and the Fishermen of St Brieuc Bay. In: Power, Action, Belief: A New Sociology of Knowledge ? J. Law (ed). Sociological Review Monograph 32, pp 196-233. Routledge and Kegan Paul, London.

‘necessary’ payments. What is operation road? By operation road, they meant that operatives might have particular areas where they have carried their business for some time and have gotten used to the people and officers in the area. Therefore, with previous alliances and payments, they enjoy a friendlier treat and are able to carry out new negotiations with some ease. Otherwise, it is more difficult to transport the load from an area outside one’s operation area, as there are uncertainties of arrest, confiscation etc.

Dealing with local opposition

The growing public concern and education about chainsaw operation has resulted in various forms of resistance not to stop logging but the conveyance of chain-sawn lumber at the community level. Mainly, the strategy has been threat of physical assault²⁰ using offensive weapons.

Dealing with the police

The main strategy in dealing with the police has been negotiation for rent payment. Interestingly, the study revealed that the police engage in the negotiation using some ‘front persons’ who might be the Driver or a junior-ranked police officer in the team.

A narrative by an informant may summarise this:

‘The trick used by some policemen is that, one, usually the senior among them will instruct the others to arrest the vehicle and accompany it to the forestry department or police station. The other(s) will then approach the driver trying to suggest that they should find something for them to use it to beg the officer to allow them to go. Through this negotiation ensues and depending on the value of the lumber and the negotiation skills of both, a deal is reached’.

This initiates a business network and for subsequent trips, payment becomes a usual routine if same officers are encountered. Through such links, the truck is able to pass security checks. If the negotiation fails, the operatives and the vehicle may be arrested. Even at this stage, chainsaw operatives are able to pay their way through at the police station. Some informants in a study village remarked:

‘The forestry people and the police always come to arrest the chainsaw people but nothing happens to them. Last month they came to arrest them but we understand each paid 400,000 Cedis and they were freed’

Another sophisticated police enrolment strategy has been the timber operative engaging the services of a policeman to escort the vehicle with the bush-sawn lumber.

‘Sometimes, if you can have a policeman too to accompany you and escort you to the city, then the problem is solved since you can then evade security checks on the grounds of arrest’.

Dealing with forestry officials

Some timber operatives have coped with conflict by linking up with forestry officials to buy confiscated lumber, obtain official receipt and waybill to convey the lumber. To maintain this link, some officers use under-invoicing in order to maintain a portion of the sale. This establishes a business network for continuous supply of confiscated timber.

In the case where efforts to pay one’s way through security checks fail, the timber men enter another negotiation with the forestry officials to purchase the confiscated timber instead of selling them to other parties.

Through this enrolment of the police and officials, the illegal acquisition of bush timber to feed the domestic market has become a highly organised one and helping the informal timber

20 Such physical attacks on community-level personnel and officials by chainsaw operators have been reported on many occasions (Chainsaw operator attacks committee member, Daily Graphic, September 6, 2003, p.22)

sector cope with their problem of not having formal access to timber rights. There is a growing evidence in the media, both in Ghana and elsewhere, that the illegal timber operatives have succeeded in using state agencies to empower themselves to sustain their coping strategies²¹.

That the coping strategy is complex and working effectively with some connivance of the state machinery, it would not have been possible for illegally sourced timber to be conveyed from long distances and still able to evade the several security check points.

“How can somebody bring bush cut from Sefwi to Kumasi²² without arrest, they know how to pay their way through” (said an informant)

Coping on the ground

Notwithstanding the cooperation enjoyed by chainsaw operatives from the state agencies, the study showed that the Forestry Service and the police, in some instances have also been co-operating to confiscate and prosecute illegal chainsaw operators²³. However, many forestry officers interviewed were of the opinion that due to the low court fines compared with the profit of the trade; prosecution has not been an effective way to cope with the ‘illegal’ chainsaw operations’ conflict.

Coping strategies of the state: policy perspective

The state, as an active actor in the chainsaw episode has adopted several strategies to respond to the threat of her economic and ecological interest in timber resources aside legal prosecutions and punitive measures on the ground. Given the complexity and highly organised form of illegal logging, the inadequate capacity of the state agency to monitor chainsaw activities, corruption involving the state agency itself, the state, through the machinery of public policy, is coping by counteracting the social and market forces behind the illegal chainsaw discourse. Consequently, the state is considering a strategy to mobilise chainsaw operators into alternative productive ventures (MLF memo to Cabinet, 2003). The government is further pursuing a policy to compel sawmills to sell to the domestic market mainly by relying on legislation as the instrument to enforce the policy (refer to L.I. 1649 s. 36).²⁴

‘Due to the unwillingness of timber industry to sell on the local market, illegal chain sawn products have taken over the domestic timber market (Minister of Lands and Forestry, 2003)²⁵.

Enabling and constraining circumstances

The dynamics of the empowerment strategies and resources deployed to cope with the ‘illegal’ chainsaw conflict can best be understood if the social, economic and political circumstances surrounding forest resource governance are highlighted. How has the chainsaw operative been able to sustain his strategies in the face of massive public campaigns, joint

21 In Kenya, more than 800 forestry officers have been suspended while the government investigates alleged links with illegal loggers (<http://www.illegal-logging.info>, 25/10/03). In Ghana, reports about forestry officers, police and chiefs’ involvement in illegal chainsaw operations have been made

(<http://www.myspacefm.co./20newsaug8.html>, 4/11/03; Ghanaian Chronicle, 1/9/03)

22 Sefwi is in the Western Region whiles Kumasi is in the Ashanti region. Bringing timber from Sefwi to Kumasi means crossing one region to another.

23 In almost all the District forestry offices visited, there have been some prosecutions and cases pending at the law courts. It is reported that between January and July 2003, about 500 trucks of illegal chainsaw lumber were impounded at the FSD office in Koforidua alone. (<http://www.myspacefom.com/20newsaug8.htm>, 4/11/03)

24 Government has passed a regulation requesting all sawmills to contribute 20% of their lumber production to support local market supplies and fifty-six selected companies granted felling permits to produce lumber solely for the local market (MLF memo to Cabinet, 28th May 2003). The study has not verified the implementation of these official statements.

25 Government to enforce directive on lumber production (Joy FM News, August 28, 2003)

military-police-forestry task force operations and prosecutions? Why has the state depended on such punitive mechanisms and why are both actors evolving new strategies?

Fundamentally, the existing and growing domestic market for wood and wooden products has provided and sustained the economic incentive for hunting timber. Treue (2001²⁶) estimates that the domestic wood consumption is probably at least 700,000 m³ in round wood equivalent per year, excluding charcoal and fuel wood. Given, the 1994 population growth rate of 3.3% and real economic growth of 3.8%, it has been estimated that the domestic wood consumption could grow 3.5% per annum which could amount to domestic consumption of nearly one million m³ by 2005 (Overseas Consultancy Service, 1995). With export as the dominant driving force for timber harvest, given, in 1996 for example, a total recorded extraction value of nearly 1.2 million m³ with total export harvest of nearly 900,000 m³ leaves only about 300,000 m³ of harvested wood for domestic consumption (Treue, *ibid.*). One can therefore estimate a whooping gap of 400,000 m³ wood consumed annually, which is sourced by illegal means.

Second, the social alliances formed with resource 'owners' on the ground through the direct arrangement of mutual financial and social benefits²⁷ have contributed to sustaining the operations of the illegal operatives. Through the direct negotiation for tree price, the illegal operative has succeeded in respecting farmers and local partners as the *de facto* owners and controllers of timber resources²⁸, thus contesting the *de jure* authority of the state as the owner of forest resources.

On the ground, the relatively low court fines²⁹ and the delays in the administration of justice has been a disincentive to the forestry agency and the police to enforce the law through legal prosecution³⁰.

Another circumstance that has allowed the chainsaw operatives' coping machinery to work is the inability of the state to effectively enrol the agency of the local actors on the ground through direct financial and economic incentives³¹. Many chiefs have not been enrolled because the existing mechanism of distributing royalty, as the main financial benefit to landowners, does not guarantee benefit flows to many legitimate chiefs³². Likewise, many forest-fringe communities do not enjoy any visible financial or development projects from legally permitted timber operations. Some recent studies have shown that the social responsibility agreement (SRA) arrangement, which was to provide such incentives, is faced

26 Treue Thorsten. 2001. *Politics and Economics of Tropical High Forest Management, A case study of Ghana*. Kluwer Publishers.

27 The study shows that some farmers preferred chainsaw operations since cutting and conversion are done in situ on farm reducing crops destruction from log skidding and transport. Even when compensations are not paid, at least destruction to crops is minimal, they observed. Moreover, some farmers use commercial trees on their land to reward native chainsaw operatives for farm preparation services such as cutting trees on fallow lands, thus reducing farming cost.

28 The study shows that in many instances farmers perceive trees on their farms as their own with statements such as 'I have my plans for the tree on my farm'.

29 On committing any offense related to chainsaw operation, the offender is liable to a maximum penalty of a fine not exceeding GHC 5,000,000 (about USD 570) and/or at most 12 months imprisonment (L.I. 1649, sub-regulation 41(1)).

30 Forestry officials indicated this as a problem. In a community forestry forum meeting in Goaso, it was reported that some forestry cases have stayed in the court for more than three years (16th July 2003).

The increasing evidence that judiciary service in Ghana is corrupt providing no incentive for arrested chainsaw operators to be sent to court if they will end up paying rent to escape the state's justice.

31 In recent collaborative forest management discourse in Ghana, communities are continually being called upon to assist government deal with chainsaw operators through public education and institutional mechanisms such as formation of community forest committees.

32 The 1992 Constitution of Ghana requires 25% of royalty to be paid to stools through their traditional authority and 20% to the traditional authority by the Office of the Administrator of Stool Lands (Art. 267). However, in some cases, transfers of stool land revenue to chiefs from traditional authorities have not been flowing leading to several conflicts and court cases. Worse of it is flow of financial benefits to caretaker chiefs who do not, by state law, have any share in forest royalties (source: OASL, Kumasi).

with several problems³³ at implementation. Other studies have pointed to the fact that the lack of direct financial share from royalties from timber harvests to the farmer is a big disincentive for farmers to protect farm trees (Treue, 2001; Amanor, 2002). With the current directives to source 75% of timber from off-reserves, a strategy to enrol the support of the farmer and disentangle him from the business alliance with chainsaw operatives remains a challenge for the state to deal with ‘deviants’.

Conclusion

We know a great deal about power but we have been timid to build upon what we know’ (Eric Wolf)

It is concluded from the discussion that the ‘illegal’ chainsaw episode should not be conceptualised as a conflict over a predefined unequivocal problem with competing actors pro and con, but as a rather complex and continuous struggle over the definition and meaning of ‘illegality’ itself in natural resource governance. Again, it can be argued that the state, by virtue of her access to public legislative machinery, has contested and continues to do so, in the struggle over resource control with subordinate competitors by defining the limits of action through law. Therefore, it is clear that in forest resource governance, the content of the state’s law should not be construed to be divine, primordial and not subject to any ‘subordinate’ contestation. The ‘illegal’ chainsaw conflict in the light of the dynamics of the empowerment strategies of the chainsaw operator shows an important lesson in resource management and governance. That, whereas the state by virtue of its own law, may have *de jure* authority to control resources, its subjects may indeed have *de facto* control over access to resources. In the context of the illegal chainsaw operators, they control by strategies that deploy socio-economic resources, social and institutional alliances and networks and threats to cope with their ‘illegal’ status. In the struggle, the frailty of the state is exposed when its own apparatuses are disintegrated by the strategic mobilization of resources to reward its bureaucracy and subjects when it is unable to do so. To summarise poetically,

When the state fails to reward the farmer financially, the ‘deviant’ gives him money
When the state is asleep, the ‘deviant’ is awake and up to business.
When the state agents’ pockets are empty, the ‘deviant’ learns to fill them full
When the state’s benefit distribution machinery exempts the forestland caretaker, the
‘deviant’ presents him with alternative income plan.
By these realities, the struggle goes on!!

In this light, one can conclude that the state policies are highly stylish often loaded with symbols... Thus, in assessing the strategies that the state employ to cope with particular conflicts or ‘problems’, it is argued that our understanding is impaired if we follow the conventional notion of policy as the authoritative statement of what government intends to do in a certain problematic area. Rather, I contend that following Schaffer’s³⁴ definition of policy ‘as the structured commitment of important resources’ can help us to know how, in practice, the state is bringing its powers to bear on ‘problematic’ areas such as ‘illegal’ chainsaw operations. We must look at what the state is doing rather than what it is saying!!

Finally, assuming the state is right by defining chainsaw activities as evil, the paper has highlighted specific circumstances in the resource governance in Ghana that have enabled the

33 The preparation of SRAs has not addressed community needs but has served to formalise and institutionalise the conventional practice of providing financial benefits to chiefs and landowners. The study is skeptical about whether the interests presented were those of the communities or the chiefs (Forestry Commission report on SRA desk study, 2001). The operationalisation of the term ‘community’ has been problematic in the SRA negotiations and many towns and villages continue to hassle timber companies to contribute to their community projects; a condition that is further alienating such communities as potential state partners in confronting the illegal chainsaw operator (see Marfo, E.2001 Community interest representation in negotiation. A case of the SRA in Ghana. MSc thesis, Wageningen University)

34 Cited in Colebatch, H.K. 1998. Policy: In: concepts in the social sciences. Buckingham: Open University Press (chapters 1-5)

strategies of the illegal chainsaw operator to work. These have policy implications and therefore challenge the existing philosophy of resource management. In the light of the above, I consider the following as specific conditions that require scientific research and analytical refinement that can help the state respond to her ‘illegal’ chainsaw problem.

A system to ‘equitably’ distribute forest benefits and provides economic (financial) reward to the caretaker, owner and manager of naturally occurring commercial trees. This condition naturally challenges the current arrangements of royalty sharing and timber resource allocation. Can there be a science-led development of alternative forest benefit distribution system?

From the above, if asked to be the devil’s advocate for illegal chainsaw operations, I will do so by asking the following questions:

- If indeed forestland and resources belong to us, shouldn’t we have the right to exploit them to support our livelihood?
- If export of timber is stifling domestic supply, shouldn’t we use chainsaw operations to help us meet the demand of timber from our own forests?
- If the farmer who has nurtured the tree on his farm cannot enjoy any direct financial benefit from formal arrangements but can do so with the chainsaw operative, in the name of social equity and justice, aren’t chainsaw operations justified?

I leave the forum to discuss and answer these questions.

3. TECHNICAL SESSION

3.1 ILLEGAL CHAINSAW OPERATIONS: IMPACT, CONSTRAINTS, CHALLENGES AND POLICY REFORM

By Agyeman, V.K., Forestry Research Institute of Ghana, Agyeman F., Ministry of Lands and Forestry and Kyereh, B., Institute of Renewable Natural Resources

Abstract

One of the critical problems currently facing the forestry sector is how to control illegal timber felling activities, particularly illegal chainsaw lumbering activities, which are rapidly decimating the country's forest estate. Illegal chainsaw activities have gained much prominence because of the failure of processing mills in the country to service the large demand (estimated to be almost 3 million m³) for timber in the domestic market, as well as the inability of the forest estate to sustain under a huge demand.

Current estimates indicate that illegal chainsaw activities alone account for about 1.7 million cubic metres of timber harvested in the country, while illegal logging also account for about 900,000 cubic metres. These illegal activities together with estimated legal harvest of 1.1 million cubic metres, sums up the total harvest of timber in the country to 3.7 million cubic metres.

Various measures have been adopted to control this menace, including the use of both the military and police to track down culprits and confiscate lumber, equipment and vehicles used in the operations. The exercise has failed to make the desired impact mainly because of corruption (extortion of money from those arrested) on the part of officers charged with this responsibility and lack of resources, including vehicles, for monitoring.

The judicial service has also failed to cooperate in the effective implementation of this exercise by either charging low fines or freeing the few suspects that were arrested. Again weak administration and poor supervision by the Forestry Commission of field activities has allowed massive connivance of forestry field officers with illegal operators and thus exacerbated the situation.

Policy and institutional reform strategies put in place by the Ministry of Lands and Forestry (MLF) to address the problems are reviewed. Government decided to temporarily accommodate the activities of the chainsaw operators, while an effective programme was developed to address the issue from the market side instead of the previous attempts to regulate the operations of the chainsaw operators by clamping down on the supply of the lumber. The government however proposed that in the interim chainsaw operators will be engaged in alternative livelihood support schemes to create employment avenues for the rural poor, especially the youth. The livelihood support schemes will include plantation thinning, boundary demarcation, plantation coppice management and recovery of off-cuts in the forests. Chainsaw operators will also be organised by MLF in collaboration with district assemblies to operate mobile mills to supply lumber to local communities.

Introduction

The forestry sector plays a very important role in the socio-economic life of the country and is potentially one sector, which can be sustainably managed and developed to provide perpetual benefits to all segments of society. However, this potential is yet to be realised because of numerous constraints facing the sector.

Illegal chainsaw operation is one of the major factors contributing to the rapid decline of our forest resources. It was estimated in 1995 by the Forestry Commission that timber harvesting of ecological species groups was exceeded by between 22% and 532% depending on the

market demand of the species group due to illegal logging and chainsaw operations (Table 1). A more recent study by the Birikorang (2001)³⁵ on the performance of the wood industry estimated that 46% of total timber harvest was by illegal small-scale chainsaw operators.

It is worth noting that the total quantity of timber harvested from reserved forest is well controlled with up to 20% over-cutting. However, the quantity of timber harvested outside reserves is about 500% above the AAC for those areas. This is because it is easier to control timber exploitation on forest reserves since the land is under Government control, even though it is owned by Traditional Authorities³⁶. However, it has been extremely difficult for the government to control illegal timber harvesting and chainsaw operations off-reserves because of the timber tree tenurial system in those areas³⁷ and the high domestic demand for illegal timber due to its relatively low prices. There are currently wide disparities between domestic and export wood prices, which are encouraging saw millers to export their products. This has led to a strong domestic demand for wood products, which is currently being met by chainsaw operators or small-scale timber operators.

Table 1 Total number of trees in different ecological species groups harvested in production areas of forest reserves in 1995

Species Group	Sustainable no. of stems for extraction	1995	
		No. of trees harvested	% over- exploitation
Scarlet	5,460	28,569	532
Red	15,300	14,593	95
Pink	38,660	8,670	22
Total	59,420	51,832	87

The Ministry of Lands and Forestry is critically examining all issues militating against the smooth administration of the forestry sector. Consultations with stakeholders have been held with the objective of developing a sound and clear-cut policy that will satisfy the aspirations of all stakeholders. To this end, MLF is reviewing the extent of forestry resources both on and off reserves, timber resource allocation, the revision of all fees, royalties, rent and other fees in the timber and wildlife industry, the benefit sharing mechanisms between the government and local communities in plantation development.

The review of forestry sector policies is important because currently over two-thirds of the wood that was harvested in 1999 was done illegally. The uncontrolled cutting means that reliable knowledge on the stocking situation of the forest resource is largely based on guesswork and informed estimates from past inventories and pre-logging enumeration. This report therefore reviews past policy failures and current attempts by government to address the chainsaw-processing problem and outlines gaps in implementation.

Underlying factors promoting illegal chainsaw operations

Within the last few years, there has been an upsurge of chainsaw operations, largely because, the operation is a highly profitable business since those involved in it do not pay any stumpage fees or taxes. Even though it is recognised that chainsaw operations contribute significantly to employment and lumber markets at local communities, the operations are highly wasteful of resources, making their provision of benefits unsustainable in the long term. Nevertheless, chainsaw operations are difficult to control since they provide cheap

35 Birikorang, G. 2001. Ghana Wood Industry and Log Export Ban Study. Prepared for Forestry Commission. (DFID). 55pp.

36 Forest reserves are fully vested in the State through the Forest Ordinance, 1927, but the ownership of land is by the traditional Authorities. The owners have no right of access to the trees or land in the reserves, except for domestic use only, on permit from the competent government authority (Forestry Department). These rights are termed "Domestic Use Rights".

37 By law (Trees and Timber decree, 1974, Timber Resources Management Act, 1997 and Timber resources Management Regulations, 1998), all rights to economic timber trees occurring inside and outside forest reserves, and on farms, are vested in the state. Farmers, cannot harvest, use or sell timber trees on their farm. However, farmers are allowed to destroy such trees in land preparation

sources of wood for local communities and prompt payment of benefits to landowners and forest fringe communities irrespective of the amount of money involved. Unfortunately, chainsaw operations generate large amount of financial resources that are inequitably distributed to private pockets. These financial resources constitute losses to forest owners, communities and government.

Chainsaw processing of lumber is popular in local communities also because of the timber tree tenurial system in most areas³⁸ and the high domestic demand for illegal timber due to its relatively low prices. There are currently wide disparities between domestic and export wood prices, which are encouraging saw millers to export their products. This has served as a disincentive for existing processing mills in the country to supply the domestic market with adequate volumes of lumber and other wood products. This has resulted in a strong domestic demand for wood products, which is currently being met by chainsaw operators or small-scale timber operators.

The inability of forestry sector agencies to devise appropriate strategies to effectively protect the forest resource has also resulted in an increase of illegal activities. This has been compounded by lack of cooperation from the law enforcement agencies and the law courts, which have woefully failed to prescribe sanctions against illegal chainsaw operators.

Strong support of some local communities for illegal chainsaw operations is also a major reason for the increasing trend of timber processing using chainsaws. Even the deployment of mobile forest protection action groups, involving the police and military, has been unsuccessful due to the strong local support.

Currently, chainsaw operators are often armed with offensive weapons and operated deep in the night. As a result of this situation, some forest officers have either been killed or maimed by these operators. These illegal harvesting control measures failed to make the desired impact mainly because of the high demand for wood and the low penalties involved. Again poor capacity at the district forest operations level either prevented detection of illegal activities or allowed massive connivance of forestry field officers with illegal operators and thus exacerbated the situation.

Chainsaw processing policy failures

Previous attempts to control illegal timber felling activities in the country have focused on operations in the forests and allowed the marketing of illegal products to go on unchecked. The profile of government policy within the past decade to address the problem of illegal chainsaw operations and chainsaw operations (see Table 2) has involved the enactment of the Trees and Timber (Chainsaw Operations) Regulations, 1991, (L.I. 1518), which accommodated the operations of the chainsaw operators.

38 By law (Trees and Timber decree, 1974, Timber Resources Management Act, 1997 and Timber resources Management Regulations, 1998), all rights to economic timber trees occurring inside and outside forest reserves, and on farms, are vested in the state. Farmers, cannot harvest, use or sell timber trees on their farm. However, farmers are allowed to destroy such trees in land preparation

Table 2 Review of past chainsaw policy measures

Up to 1994	No mention of chainsaw operations even in 1994 Forest Policy
1994	The first serious attempt to address the illegal chainsaw problem was in operations was under the “ <i>interim measures</i> ” in 1994, probably after the Forest and Wildlife Policy was promulgated. A position accommodating chainsaw operations under legislative instrument and consolidating their regulation.
1996	Deployment of 1 st Police Task Force in 1996 to monitor illegal chainsaw activities, followed by a Military Task Force.
1997	Prohibition of chainsaw operations under the Timber Resources Management Act, 1997 (Act 547)
1998	Timber Resources Management Regulations 1998 LI1649. Sec. 32(1),(2).
2001	Policy Advisory Committee set up by MLF
2002	Policy reform process
2003	Cabinet and parliamentary approval for illegal chainsaw operations/ban policy reforms

The operations of the chainsaw operators were further consolidated and recognised under the “Interim measures to control illegal timber harvesting outside forest reserves”. Under these measures, the activities of the chainsaw operators were supposed to be regulated by the district assemblies and the supervision of their operations were completely decentralised at the district level.

A major policy review of the chainsaw operations was carried out between 1996 and 1997 culminating in the promulgation of the Timber Resources Management Act, 1997 (Act 547) and its accompanying Timber Resources Management Regulations, 1998 (L.I. 1649), which prohibited chainsaw processing of timber into lumber and other products. Consequently, the Chainsaw Operations Regulations, 1991 (L.I. 1518), which legalised the operations of chainsaw operators was repealed.

Chainsaw processing of timber was banned in 1998 due to the following reasons:

- High levels of waste and inefficiency in converting logs to lumber
- No stumpage is paid: loss to Government
- Distorted or skew economic rent distribution. Enabled wood processors to capture the lion’s share of economic rent at the expense of the forest owners and local communities.
- The construction sector and furniture makers for whom consume a large proportion of informal lumber (it is a source of cheap raw materials), and this depresses domestic lumber prices. Domestic sawmills are unwilling to sell into this low-priced market because of the high opportunity costs involved.
- To allow the Forestry Commission improved control over logs and lumber
- Guarantee future supply of raw materials to the timber industry

The policy measure of using both the military and police to track down culprits and confiscate lumber, equipment and vehicles used in the operations have also not been successful. The exercise has failed to make the desired impact mainly because of the rent seeking behaviour on the part of officers charged with this responsibility. In addition, state security agencies assistance needed to check the overland smuggling of timber products, particularly to northern neighbouring countries was inadequate. The judicial service has also failed to cooperate in the effective implementation of this exercise by either charging low fines or freeing the few suspects that were arrested.

All the previous mechanisms adopted to solve the problem have not succeeded because the primary cause of the illegal chainsaw operations, which is the disparity between domestic and external market prices, was not addressed in the past. Major contributory factors are weaknesses in existing legislation, particularly the Ghana Investment Promotion Centre (GIPC) Act, 1994 (Act 478), which encourages investors in all sectors of the economy, excluding the mining and petroleum sectors, to import requisite plant and machinery to carry

out investment in the country without prior approval from any authority before importing the equipment. This partly explains the over-capacity in the wood-processing sector.

Weak harvest control and poor supervision by the Forestry Commission of field activities has allowed massive connivance of forestry field officers with illegal operators and thus exacerbated the situation. Although management planning and wood harvest control systems have been introduced over the years to prevent illegal chainsaw operations, indications are that log movement monitoring has been ineffective in preventing over-cutting.

Chainsaw policy reform and impacts

The chainsaw policy reform process started in 1996 following a review of the “Interim measures to control illegal timber harvesting outside forest reserves”. Another chainsaw policy review study was conducted in 2001 under the Forest Sector Development Project II (FSDP-2). This study identified credible options to deal with the impact of lapses in the control of chainsaw processing operations. The study provided recommendations for relaxation of the ban, but with provision for capture of previously uncollected rent through either auctioning of a log export quota or imposition of a log export tax. This greater capture of economic rent through export tax or auction coupled with increased stumpage rates was to act as a fiscal incentive to improve industry conversion efficiency and curtail chainsaw lumber production.

This study was followed by two excellent reviews on the forest revenue system and financial support for sustainable forest management in Ghana. This first review by Awudi and Davies 2001³⁹ recommended that Government action was required to draw up an action plan to undertake a series of fiscal and regulatory measures to tackle the unsatisfactory harvesting and wood rent collection and distribution. They further noted that the action plan should include a decision on the option to be taken regarding the log export ban. The second review by Treue (2001)⁴⁰ also noted that the package of restrictions on log exports, forest taxes and fees and the modalities for granting timber rights to standing timber has produced rather unfortunate incentives. He further noted that these fiscal measures have created an over-capacity in the timber industry, resulted in massive official revenues forgone and promoted a notorious over-harvest of the most valuable timber species (C.F. Agyeman et al. 2003)⁴¹.

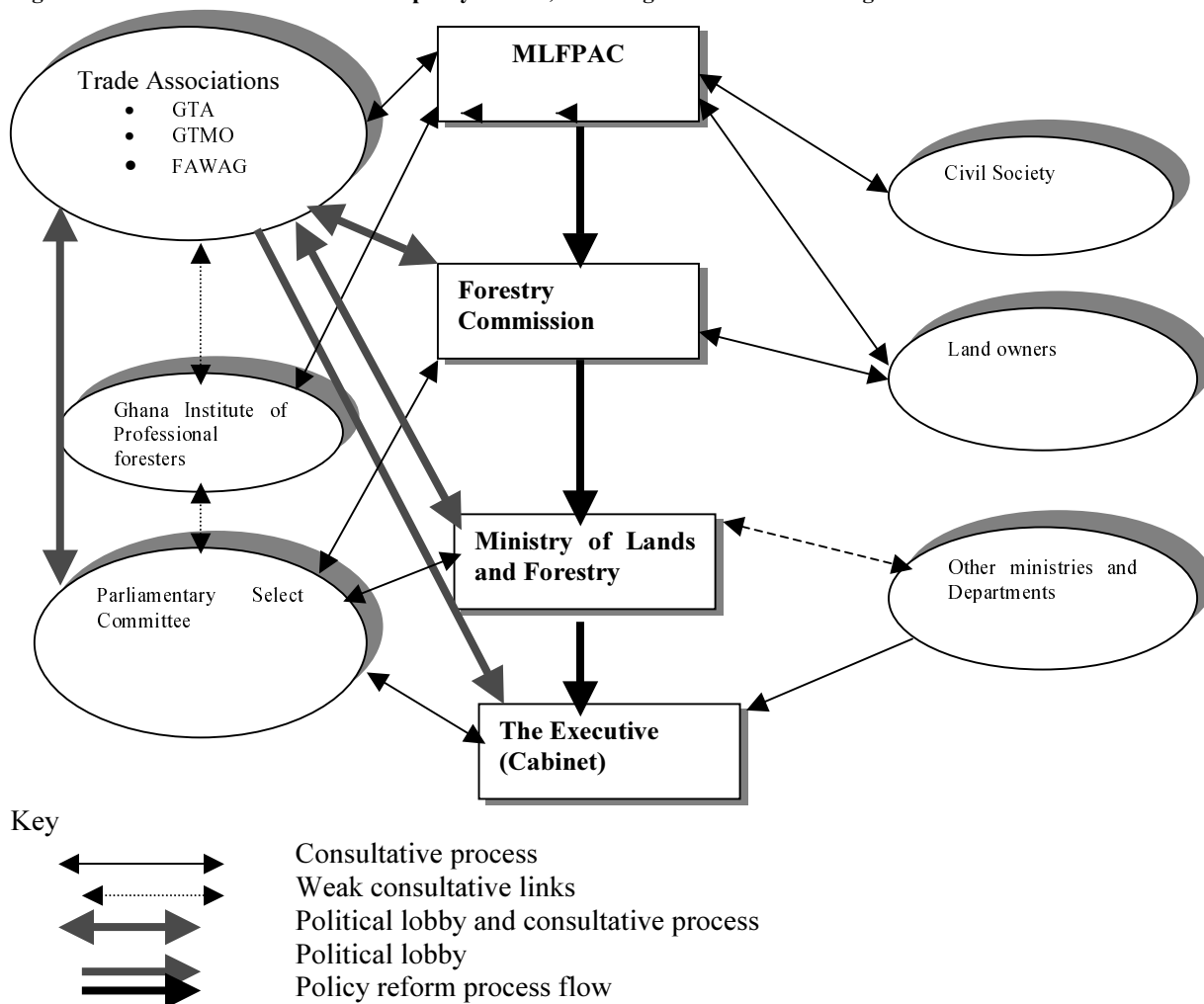
In response to all these studies and policy reviews, the Ministry of Lands and Forestry initiated a policy reform process (Fig. 1) and also set up a Policy Advisory Committee (MLFPAC) in 2002 to advise it on the actions to take. The consultative policy reform process chart for chainsaw and fiscal policy reform reveals a strong lobby by the trade associations and the absence of consultation between the private sector bodies. It is hoped that the process will over time evolve to encourage broader interaction between the stakeholders, particularly between the private sector bodies and civil society. However currently this is addressed through representation on the MLFPAC and the board of Commissioners of the Ghana Forestry Commission.

39 Awudi, C. and Davies, J. 2001. Country Report on the Forest Revenue System and Financial Support for Sustainable Forest Management in Ghana. Prepared for FAO (Sustainable Forest Management in African ACP Countries).71pp.

40 Treue, T. 2001. Policies and Economics of Tropical High Forest Management: a case study of Ghana. Kluwer Academic Publishers.

41 Agyeman, F, Nyantakyi, J.K., Attah Alhassan and Birikorang, G 2003. Forest Fiscal System Reform: Ghana Country Report. Paper Delivered at Department For International Development (DFID) and World Bank Workshop on Forest Fiscal System Reform. Washington DC. 19pp.

Figure 1 Consultative Process chart for policy reform, including Chainsaw Processing Ban



Source: Rhein (2002)⁴²

In order to address the problem of chainsaw lumbering, Government decided to temporarily accommodate the activities of the chainsaw operators, while an effective programme was developed to address the issue from the market side instead of the previous attempts to regulate the operations of the chainsaw operators by clamping down on the supply of the lumber.

A number of measures have been introduced by Government to address the problem of chainsaw processing of timber including promotion of market-based timber allocation procedures, implementation of an alternative livelihood support scheme, introduction of equitable benefit sharing and more effective monitoring procedures.

Market-based approach

The government is implementing measures to promote a market driven approach to timber allocation focussing on addressing the chainsaw problem from the market side. This is believed to be a better option than the previous attempts to regulate the operations of the chainsaw operators by clamping down on the supply of the lumber.

The Ministry of Lands and Forestry believes that regularisation of chainsaw operations will further exacerbate the problem of deforestation. For example, it is estimated that legalizing

⁴² Rhein, M. 2002. Competitive Bidding for the Allocation of Timber Rights. FSDP-2 Forestry Commission Working Report. 2 pp.

the operations of the chainsaw operators will increase the log harvest from the current 3.7 million m³ to over 5 million m³, which is likely to exert tremendous pressure on the already dwindled forest resources of the country and eventually lead to its earlier demise than expected.

Alternative livelihood support scheme:

The Government of Ghana has critically examined the situation and all the pertinent issues involved and on the basis of past experiences, have accordingly decided to adopt more positive and proactive approaches to the resolution of the problem. Government has realised that chainsaw operations under its present form cannot be sustained or controlled within the limits of the Timber Resources Management Act, 1997 (Act 547) and Timber Resources Management Regulations, 1998 (L.I. 1649) and has therefore decided that chainsaw operators will be accommodated under the law to engage in alternative livelihood support schemes to create employment avenues for the rural poor, especially the youth. The programmes include:

- Forest plantation thinnings
- Forest boundary demarcation and clearing
- Forest plantation coppice management
- Land clearing and other related activities on the on-going national forest plantation development programme
- Assisting timber companies timber harvesting operations in more difficult areas
- Recovery of timber off-cuts in the forest

However for these measures to be effective it is necessary to actively involve the co-ordinating councils and district assemblies in the control of illegal logging and chainsaw operations.

In addition to the above, preference will also be given as much as possible to known chainsaw operators who have the means to invest in the establishment of mobile mills in strategic locations in the various localities in the country. This will help the more resourceful ones to invest and thus make living in the small-scale wood processing industry. To this effect the government is also exploring the feasibility of charging chainsaw operators all the statutory fees and charges for the granting of access to the resource to fell and crosscut trees just as the legitimate logging and swilling companies do. The programmes outlined above will be backed by massive public education on the issues at stake through both print and electronic media in order to ensure that all relevant stakeholders are brought on board for the successful implementation of the various programmes as outlined.

Other supportive measures including equitable benefit sharing

Other supportive measures for the control of illegal logging and chainsaw operations include the introduction of a tight and effective log monitoring system which tracks trees from stock survey maps through felling and extraction, using district felling returns (DFRs), to the mills, using log measurement certificate and conveyance (LMCC), and eventually for export through an export permit which details the ship on which it left the country.

Secondly, government has mandated the Forestry Commission to draw up a comprehensive programme to link up all wood dealers and or sellers with the various sawmills where the stocks of timber are located, to enable the dealers source their lumber and other wood products for sale to the general public. In addition, the Forestry Commission has been requested to liaison with the various district assemblies to submit proposals on the siting of mobile mills in strategic locations within their respective districts for the production of lumber to feed their localities. These mills will be granted timber utilisation permits as a means of guaranteeing their raw material needs. The permits will be renewed annually subject to the satisfactory performance of each mill and companies will be required to submit value-added tax (VAT) and other documentary evidence before permits are renewed for them.

Consultations with traditional authorities, local communities and district assemblies

One of the attractiveness of chainsaw operations to the local communities is the prompt payment of benefits irrespective of the amount of money involved. The chainsaw business thus comes closer to community households, at least in decision making on exploitation of trees and meeting the immediate and short-term needs of households for timber. Government has initiated a consultation process with the chainsaw operators and local communities as a long-term solution to the problem. Steps are also being taken to ensure that resource-owning chiefs, fringe communities and rural communities effectively collaborate with the Forestry Commission in the protection of the forests and also to ensure that these stakeholders receive adequate and remunerative benefits for their efforts.

The Ministry of Lands and Forestry is also liaising with the Ministry of Local Government and Rural Development (MLGRD) to ensure that the district assemblies, which receive a substantial share of the forest revenue, cooperates with MLF to effectively implement programmes aimed at controlling illegal logging and chainsaw operations.

Prosecution of offenders

The Ministry of Lands and Forestry (MLF) is currently holding consultations with the Attorney General and Minister of Justice in order to ensure that chainsaw operators who do not cooperate with MLF and continue to operate illegally are speedily brought to trial by the courts and appropriate as well as deterrent sentences and fines are administered as prescribed by law. The Ministry is aware that some officials of the Forestry Commission as well as some officers of the security force through acts of omission and commission are responsible for the ascendancy of these illegal activities. This situation is being monitored and investigations are being conducted to identify such officers for disciplinary measures to be taken against them as prescribed by law.

The government is further adopting concrete measures to stem the spate of illegal forest operations through the institution of effective forest protection methods with the collaboration of forest fringe communities. Incentive programmes are being drawn up to assist communities that will be collaborating with MLF in securing the forest resource. The Ministry of Lands and Forestry has also directed that henceforth, any vehicle that would be arrested and confirmed to be involved in the harvesting and transportation of illegally harvested timber or lumber should not be released by any officer without the written and explicit authorisation of the Minister. The purpose of this directive is to stem the prevalence of connivance of forest officials with security officers to release vehicles and other equipment that are often confiscated when illegal forest operators are arrested.

The Ministry is also taking concrete steps to ensure that the Forestry Commission invokes the relevant provisions of the Timber Resources Management Act, 1997 (Act 547), which states among others that “*Public officers who commit offence with regard to illegal timber operations are liable on summary conviction to a term of imprisonment of not less than 6 months and not exceeding 2 years without the option of a fine*”.

Use of mill sawn lumber in public works

The Ministry of Lands and Forestry (MLF) is consulting the big consumers of lumber and other wood products in the country, including the Ministry of Works and Housing (MWH), Regional Coordinating Councils (RCC), district assemblies and Real Estate Companies to ensure that contractors working on government projects or any public construction activity source their lumber from the mills or other legitimate sources. The Forestry Commission has been directed to facilitate the effective implementation of this programme. Cabinet has currently been requested to support the policy of ensuring that contractors working on government projects or any public construction activity source their lumber from the sawmills or other legitimate sources.

Increased supply on sawmill lumber on domestic market

The Government has been engaged in discussions with timber trade associations to find practical ways to implement the provision in section 18(h) of Act 547, 1997, which require processing mills to set aside part of their production for the domestic market. In line with this provision, the Government has put in place the following measures:

- Granting of felling permits to fifty-six selected timber companies to enable them produce lumber solely for the local market.
- Contribution of 20% of lumber production by sawmills to the domestic market to supplement the local market supplies.

Fiscal measures

Government is considering increasing export levies on wood products, especially secondary wood products to compel processing companies to sell some of products domestically or increase value added processing. Identifying mills that will produce for the domestic market and for which some incentives such as access to raw material is provided, are initiatives aimed at addressing this problem. In addition, government has adopted appropriate incentive and fiscal regime to promote downstream processing and increased utilization of lesser used species (LUS) by the timber industry.

Even though not all the above measures have been fully implemented, it has been observed that the availability of chain sawn lumber on the local markets has reduced considerably.

Conclusion and recommendations

The development and implementation of comprehensive measures to address the problem of chainsaw processing can only be successful if all stakeholders are adequately involved in the decision-making process, including the monitoring of timber harvesting. Secondly, the domestic market should, to a large extent, be subjected to market driven instruments. It is expected that competitive bidding would exact the same impact on all prospective users of the resource, whether from the formal or informal sectors.

Towards these ends, Government is recommending the following policy goals for implementation:

- Current legislation on commercial production of chainsaw lumber is weak and should be strengthened.
- Current Government commitment of promoting opportunities for alternative livelihoods for lost jobs of chainsaw operators should be enhanced. More effective incentive measures should be introduced to encourage operators to give up their actions.
- Government should regularise informal timber processing to improve competitiveness of rural markets in supply of lumber.
- Government should improve proximity and easy access to lumber in competitive rural markets.
- FC should expedite competitive bidding for TUCs and commensurate timber pricing for TUPs.
- Government should seek to reduce the overall cost of access to the resource to promote harvesting of the lesser used species (LUS), as well as their utilisation on the domestic market.
- Government should further seek to increase positive contribution to gross domestic product (GDP) through the development and sustenance of export trade, especially within the Economic Community of West African States (ECOWAS) Regional Market.
- Government should review import tariffs on logs and other wood-based raw materials to increase volume of wood for processing in the country.

3.2 THE LOCAL WOOD MARKET: SIZE AND NATURE

By Henry G. Coleman, Timber Industry Development Division, Forestry Commission

Introduction

The wood based industry is a key component of the national economy and makes vital economic contributions to the nation's foreign exchange earnings and employment levels. The ability of the wood based industry to continuously contribute to the country's socio-economic development is, however, dependent on the availability of adequate and sustained raw material base. It is also dependent on the efficient and rational use of the available timber raw material.

The Ghana wood based industry produces a variety of timber and wood products for both the export and local markets. The scope of products produced have been categorised into primary, secondary and tertiary wood products and include air dried and kiln dried lumber, veneers (rotary, sliced, curl), plywood, furniture & parts, mouldings, flooring, sleepers, doors, air dried and kiln dried boules, dowels, broomsticks, etc.

Whereas the export trade in wood products is formalised in respect of procedures and institutional support, the local trade is not formalised and for that matter "open".

Largely, most of the wood products for domestic consumption can be obtained from the open market through retailers or directly from processing mills.

This presentation will look at the local market for wood products, with particular reference to lumber which is a key raw-material for domestic processing of tertiary wood products.

Current statistics/data on the local market is not exhaustive, but inferences will be drawn from a 1995 FC/TEDB report⁴³, which has very comprehensive data on the local market.

The domestic market situation

The survey report⁴³ on local market identified a total of over 41,000 (41,141) small scale carpenters and 25 medium to large-scale furniture and joinery companies in the country. These produce household and office furniture and furniture components, doors, windows and frames, general joinery, pallets, crates, chop boxes, coffins, etc which account for about 75% of annual total sawn timber requirement of the country.

The small scale carpenters' requirement of over 219,000 m³ of lumber annually is being supplied mainly by the domestic open market. Major markets such as Anloga in Kumasi, timber market in Accra and Kokompe timber market in Takoradi and elsewhere (Mankessim, Techiman) are main supply retail markets to these numerous carpenters and artisans.

The medium and large-scale furniture companies also require about 120,000 m³/year. However they mostly source their supplies from sawmills and produce for both the local and export markets. The building and construction industries, which are the major users of structural timber, require about 104,000 m³ annually for their activities. It is noted that most of the construction and housing companies obtain less than 10% of their wood supplies from the sawmills. The established timber retail markets mainly sell chain sawn timber.

Thus, analysis of the sawn timber requirement for various end users gave a total volume of 456,417 m³ annually. The breakdown is as follows:

43 Report on study to improve the supply of sawn timber on the domestic market – by Timber Export Development Board for the Forestry Commission, November 1995.

End – Users	Vol. m ³ /yr.	% Total Req.
Small scale carpenters	219,033	47.99
Med./large scale furniture companies	120,990	26.51
Structural use	104,024	22.79
Transport, pallets and packages	12,370	2.71
Total	456,417	100.00

Lumber production and consumption

Table 3, below indicates the trend of production, export and apparent domestic consumption of lumber.

Table 3 Sawn timber production, export and consumption; 1993-2002 (x1000m³)

Year	Sawn timber output	Sawn timber export	Apparent consumption
1993	516	240	276
1994	582	259	323
1995	558	286	272
1996	545	239	306
1997	601	271	330
1998	590	253	337
1999	508	280	228
2000	607	311	296
2001	559	268	291
2002	558	217	341

Apparent consumption of lumber locally has increased from a level of less than 100,000 m³ in 1985 to an annual average of 300,000 m³ since 1993.

The chart below also shows an uneven but steady rising trend of local consumption of lumber.

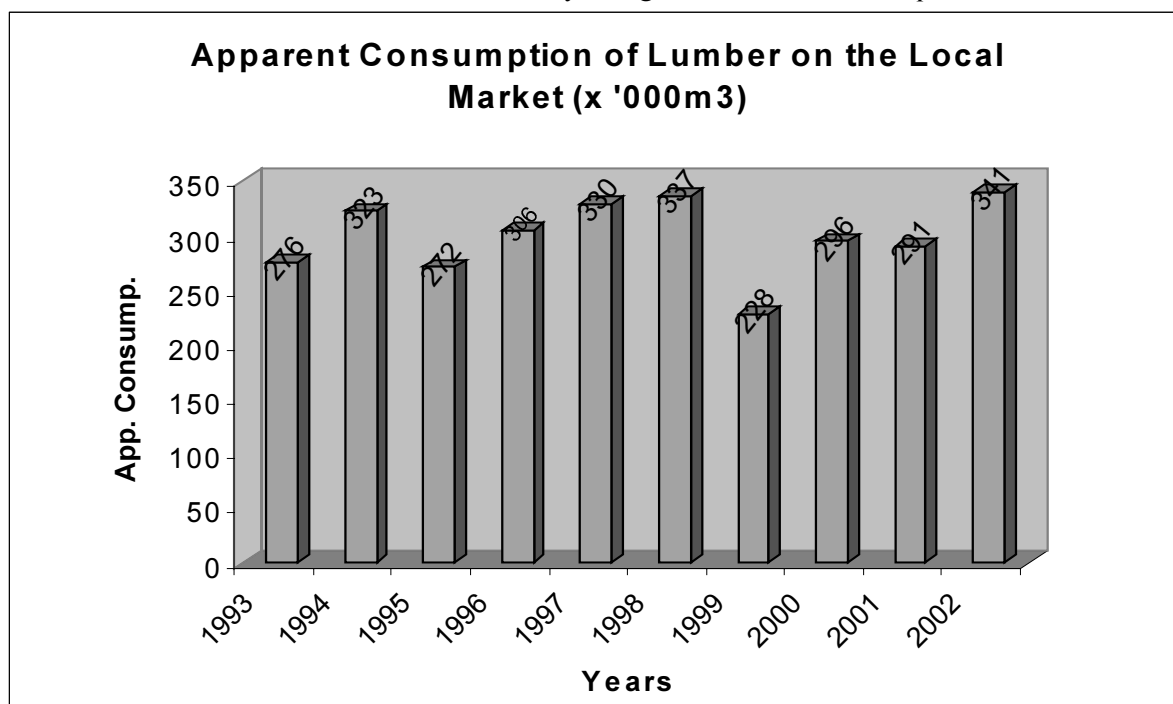


Table 6 also depicts the expected sawn timber and panels consumption trend on the domestic market; for most end-uses the consumption trend is expected to increase.

Major domestic consumers of lumber are the construction and housing sectors and furniture and mouldings industries. Other minor but significant users of sawn timber include manufacturers of boxes, crates and pallets.

At the current average local lumber consumption level of 300,000 m³/year, this figure is (34%) below the 1995 annual total lumber requirement for domestic consumption of 456,417 m³, even though the current lumber requirement is also anticipated to rise because of increased scale of building and construction activities and infrastructure development generally.

Clearly, there is a gap between domestic lumber requirement and the apparent consumption. It is obvious that this gap is filled illegally from chain sawn lumber and illegally sourced logs.

Supply of lumber to the local market

Recorded figures from TIDD report⁴⁴ indicate that in the year 2002, sawmills in the country supplied 102,362.757 m³ (Table 4) of lumber to the local market.

For the period January – August 2003, sawmills supplied 53,771.164 m³ (Table 5) of lumber to the local market.

This is in fulfilment of Regulation 36 of Timber Resources Management Regulations, 1998 (LI 1649), under which the Ministry of Lands and Forestry in consultation with the Forestry Commission directed that each mill in a non-selected category must supply a minimum of 20% of the company's total lumber production to the local market whilst every mill under the selected mills must put all lumber produced to the domestic market.

Table 4 Lumber supply to the local market by selected and non-selected mills - 2002

Region	Selected mills (m ³)	Non-selected mills (m ³)	Total (m ³)
Ashanti	8,237.351	21,539.043	29,776.394
Brong Ahafo	3,952.898	16,098.105	20,051.003
Central	924.933	3,423.187	4,348.12
Eastern	4,166.965	4,959.608	9,126.573
Greater Accra	20.951	1,235.95	1,256.871
Volta	1,167.071	-	1,167.071
Western	1,627.696	35,009.029	36,636.725
Total (ALL)	20,097.865	82,264.892	102,362.757

Table 5 Local lumber supply to the local market by selected and non-selected mills: Jan – Aug, 2003

Region	Selected mills (m ³)	Non-selected mills (m ³)	Total (m ³)
Ashanti	4,140.614	7,553.976	11,694.590
Brong Ahafo	2,552.828	5,915.516	8,468.344
Central	282.756	1,219.219	1,501.975
Eastern	2,866.223	4,779.798	7,646.021
Greater Accra	-	685.282	685.282
Volta	998.498	-	998.498
Western	1,027.320	21,749.134	22,776.454
Total (ALL)	11,868.239	41,902.925	53,771.164

In 2002 the selected mills accounted for an estimated 20,097.867 m³ constituting, about 20% of total supply whilst the non-selected mills supplied 82,264.892 m³. Apart from the Volta Region where nothing was contributed under non-selected category, supply by non-selected mills in all the regions exceeded the selected mills. This is expected because most of the non-selected mills are of high production capacities and belongs to the large/medium scale category, whilst most of the selected mills are of low production capacities and belong to the medium/small scale category. As a matter of fact some of these mills are forest or bush mills.

44 Report on lumber supply to the local market – by TIDD, December 2002 & August 2003

The average monthly local lumber supply for year 2002 was 8,530.229 m³, whilst that of the period January-August 2003 is 6,721.396 m³. If this trend continues then it is expected that the annual supply for 2003 will be less than the 102,362.757 m³ recorded in 2002.

Some of the reasons for the decline in volume of lumber supply to the local market are:

- Delays in the allocation of TUC'S
- Non-availability of logs in the preferred species at the sawmills
- Continued availability of cheap chain sawn lumber in the major markets that renders sawn mill lumber expensive to most consumers.

As a matter of fact the 1995 TEDB/FC report⁴² indicated that depending on the species and specification the price differential between sawmill and chain sawn lumber ranged from 20 – 66%.

Sawmill lumber supply and channel of distribution by regions

In the selected mills category, companies in the Ashanti region led with total supply volume of 8,237.351 m³ (2002) whilst under the non-selected mills, Western region also contributed the highest with total supply volume of 35,009.029 m³ (2002).

In 2002, mills in the Western region generally contributed the highest in the total lumber supply with volume of 36,636.725 m³, followed by Ashanti with 29,776.394 m³. (See Table 3)

Generally, lumber from sawmills for local use are mainly from Ashanti, Western, Brong-Ahafo and Eastern which provided more than 93% (2002) of the total lumber production available for local consumption. This somehow reflects the number of mills in the various regions.

Lumber production is concentrated in Kumasi, Sekondi/Takoradi, Akim Oda and Sunyani, hence these areas tend to be the main sources of supply of sawmill lumber.

To formalise and improve the sale of sawmill lumber locally Timber Industry Development Division (TIDD) is facilitating the establishment of local sales depots at the various mills. Records on established local lumber sales depots are available and include the names and locations of companies, schedule officer(s) and common species available (see Annex 1). TIDD also periodically publishes prevailing prices of wood products, namely, logs, lumber and plywood, on the local market.

Species supplied and sizes

Species of timber for local use are almost the same as those on demand on the export market. Apart from the selected mills designated to supply all their lumber produced to the local market, lumber on the domestic market are mainly from fall downs or off-cuts arising out of production to meet the export market, especially with respect to non-selected mills.

Out of about fifty species recorded so far (in 2003), the following species are common on the local market.

These are Wawa, Ofra, Dahoma, Chenchen, Ceiba, Emire, Essia, Mahogany, Nyankom and Danta. The twelve species accounted for over 80% of the total volume supplied.

Lumber has always been cut to meet certain local demands for building and construction and furniture manufacture. The usual sizes stocked by retailers are almost the same throughout the country. The usual sizes for building and construction are 2"x4", 2"x6", 1"x12", 1"x9" and 2"x2".

For furniture and joinery, the sizes most preferred are 1"x12", 2"x3", 3"x3", and 1"x3". Lengths vary but are usually 14ft, 16ft and 18ft. However, the most available length is 14ft. Occasionally, shorter lengths of 12ft, 10ft and 8ft are sold.

Conclusion

Sourcing lumber on the domestic market has seriously become a great challenge for policy makers, timber sellers, buyers and end-users, because of the existing outstripping demand over supply of sawn timber, and the resulting illegal trade in chain sawn lumber. Most sawmills in Ghana are export oriented and therefore pay little attention to the local market as far as lumber supply to the local market is concerned.

The gap between demand and supply of lumber on the local market is filled illegally from chain sawn lumber and illegally sourced logs. A recent study⁴⁵ indicated that illegal chainsaw operators account for about 1.7 million m³ of logs harvested annually, this is aside the official Annual Allowable Cut (AAC), of 2 million m³. As a matter of fact the problem of illegal chainsaw operations has of late assumed alarming dimensions and proportions, even though MLF and FC have put in place measures to address and combat such illegal operations.

This situation threatens the sustainability of the country's forest resources, so there is the need for the MLF, the FC and its agencies to re-enforce and sustain measures put in place to counteract the activities of these illegal chainsaw lumber operators. Public education will also help in this direction.

Table 6 Expected sawn timber and panels consumption trend

End – use	Consumption trend	Comments
Domestic Furniture	General increase expected	Housing Delivery is projected to increase in the short to medium term
General Joinery and Repair, Maintenance and Home Improvement	Moderate growth expected	As above
Other Joinery	Increased demand expected	Many companies are acquiring moulding equipment hence increase local supply of T&G profiles and mouldings
Garden Furniture	Declining market expected	Strong competition from substitutes mainly from plastics
Doors and Windows	General increase in demand expected	Housing delivery will continue to increase with the introduction of the home finance schemes and other real estate developments. But a strong competition is expected from aluminium frames and other materials.
Structural	Increasing local usage expected	Structural timber will be used increasingly in government projects, particularly, at the district and local levels
Transport (truck body building and boat building)	Declining demand for this end use expected	Phasing out of trucks. Boat building industry currently on the decline.
Crates, pallet and boxes manufacture	Declining demand expected	There is a gradual shift from the use of wooden crates to plastic crates by major users e.g. the Breweries.
Internal shop and office panelling and furnishing	Increasing demand and use of wood based panels and plywood expected	New shops and offices are springing up daily in all major cities and towns

45 Ghana Wood Industry & Log Export Ban Study (Final Report) for FC – August 2001

Annex 1- Local sales lumber depots for active sawmills

No.	Company	Location	Schedule officer(s)	Common species
Ashanti Region				
1.	LLL	Kumasi (Asokwa)	Richard Kuagbela	Dahoma
2	W I L	Kumasi (Asokwa)	Sound E Sound	Ofram, Wawa, Koto
3	B L L C	Kumasi (Ahinsan)	Frank Tawiah & John Allotey	Dahoma, Albizia, mixed red wood, Ofram, Esia, Emeri, Avodire, Wawa
4	Omega	Kumasi (Ahinsan)	Mansour Hage	Wawa, Oframe
5	WCK	Kumasi (Kaase)	Elias Zahlan	Wawa, Dahoma, mixed red wood
6	AGT	Kumasi (Kaase)	Elias Zahlan	Wawa, Dahoma, mixed red wood
7	MOW	Kumasi (Kaase)	Daniel Owusu	Wawa
8	Kumi & Co.	Kumasi (Kaase)	Kumi	Wawa, Ofram
9	Evans Timber Ltd.	Aboffour	Opoku Mensah	Wawa, Dahoma
10	Poku Brother	Abuakwa	Kwaku Poku	Dahoma, MRW
11	Habitat	Kumasi (Kaase)	James Gbesayaa & Nimish Seth	Wawa, Dahoma, Chenchen, Ceiba, Sapale, Otie
12	Top Timber	Kumasi (Kaase)	Eric Amonteng	Wawa, Ofram Ceiba,
13	Star Sawmill	Kumasi (Ahodwo)	Saad Turkmani	Dahoma, MRW
14	Dome Hard Wood	Kumasi (Kaase)	Bernard Owusu	Wawa
15	Log Wood	Kumasi (Atonsu)	Samuel Dadzie	Dahoma,
16	Enwiah Sawmill	Enwiah	Daniel Afriyie	Dahoma, Ofram, MRW, Danta
17	Fosua Descendant	Abuakwa	Nicholas Adinkrah	Wawa, Ofram
18	Rogersco	Yawkwei	MD	Dahoma, Ofram, MRW, Kusia
19	Fabi	Sepase	Anthony Manassian	Wawa, Dahoma
20	Osei Tutu Timbers	Sepase	Andrews Abamga	Wawa, Ofram, Emeri
21	Asante Akyem Wood Processing	Yawkwei	MD	Wawa, Ofram, MRW
22	Fomma	Ahinsan	MD	Ceiba
23	Jir Co Limited	Mankranso	MD	Emeri, Dahoma, Ceiba
24	Skod	Nkenkasu	MD	Emeri, Ceiba Chenchen MRW
Brong Ahafo Region				
1	Jokumas Ltd	Sunyani (Fiapre)	F. B. Acquah & Richard Agyman	Chenchen, Wawa, Ceiba
2	OYCL	Sunyani	Antwi Adjei & Bob	Wawa
3	Asaase Aban	Sunyani	Yeboah Boateng & Wilfred Asem	Emeri, Ofram,
4	ABTS	Berekum	Kwasi Asoma (Joeman)	Emeri Dahoma, Chenchen, Ceiba, Ofram
5	Rural Forest Ent.	Kyeremansu	Kwaku Ahenkorah	Ceiba, Ofram
6	Alexander Takyi Timber	Dormaa	Alexander Takyi	Ceiba, Ofram, Chenchen, Emeri, Wawa
7	Adjei Timber Ent.	Dormaa	Kwabena Kwaakye & Yaw Kyeremeh	Ceiba, Ofram, Chenchen, Emeri, Wawa
8	Lilly Beatrice Ent.	Mim	MD	Ofram
9	Tuah Sawmill & Farms Ltd	Akontanim	K. Tuah	Dahoma
10	Kwame Kusi Silvestre Timber	Wamanafo	Hubert Kusi	Wawabema, Ofram, Emeri
11	Pacewood Processing	Ayakomaso	Isreal Dankwah & Banieh Hayford	Wawa, Danta, Emeri, Ofram, Chenchen
12	Jowak Ent. Ltd	Ayakomaso	J. B. Owusu	Wawa, MRW
13	Christian Brother	Ayakomiaso	Edward Mensah	Wawa
14	Ayum	Mim	John Owusu Mends	Ofram, Odum, Ceiba, Asanfina Chenchen
15	Tepa Sawmill	Tepa	Thomas K. Addae	Dahoma, Esia, Chenchen
16	Sunyani Sawmill Co. Ltd.	Sunyani	MD	Chenchen, Ceiba,
17	Alice Osei Bonsu	D'Nkwanta	MD	Ceiba, Dahoma, Albizia

Western Region				
1	Swiss Lumber	Manso Amenfi	Seth Asirfi Ababio	Odum, Wawa, Emire, Avodire, Ofram, Dahoma, MRW
2	Samartex	Samreboi	Mathew Asiedu	Walnut, Avodire, Dahoma, MRW
3	GDC	Takoradi (Apowa)	Robert Duah	Ofram, Wawa, Dahoma, MRW
4	Unitel (Transabil)	Takoradi (Apowa)	Kofi Tabicca	Ofram, Wawa, Dahoma,
5	Wood Work Marine	Takoradi	MD	Dahoma, Danta
6	Intex	Takoradi (Apowa)	Eric Sam	Ofram, Wawa, Dahoma,
7	Mondial	Takoradi (Amanfokuma)	Samuel Nyarko	Dahoma, MRW
8	Furwco	Takoradi	Edmund Dabisa	Wawa, Ofram, Emeri
9	Pas Timbers	Takoradi	Bannerman	Dahoma, Esia, Kokote
10	Ghana Prime Wood	Takoradi	Jungjohann	MRW, Dahoma
11	Rad Forest Products	Takoradi	J. E. Boison	Wawa, MRW
12	Dupaul Wood Treatment	Takoradi	Francis Abrokwa	MRW, Dahoma
13	JCM	Sekondi	Yahaya El-Manas & Alhaji Mumuni Osamnu	Wawa, MRW
14	Western Veneer and Lumber Co. Ltd.	Apowa	Sampson Owusu	Wawa, MRW
15	Western Hardwood Co. Ltd.	Apowa	Alhaji Faysel	MRW
16	Suhuma Company	Wiawso (Dwenase)	Benjamin Appiah & Alfred Afa	MRW, Dahoma
17	SIPL	Daboase	Ebenezer Hayford	MRW, Dahoma
18	Pekendon Co. Ltd.	Takoradi (Nkroful)	MD	Wawa, Ofram
19	Buadec	Sefwi-Buako	MD	MRW, Dahoma Ofram
Eastern Region				
1	COK	Oda	Kofi Diawuo & Paul Obeng	MRW, Dahoma
2	Birim Complex	Oda	Emmanuel Darkoh	Wawa
3	Oda Sawmill	Oda	James Quainoo	Dahoma, Ceiba, Chenchen, Danta
4	K. G. Wood	Oda	Stephen Oduro	Wawa
5	Eavns Sawmill	Oda	Emmanuel Akonnor	Emeri, Chenchen, Bombax
6	Portland	Oda	Joesph Tuffour	Emeri, Ofram
7	Empekon	Asamankese	Kwabena Attah	Chenchen, Hotrotro, Esa, Esia, Dahoma, Emeri, Wawa
8	FAM	Buadua	S.F. Martey	Ceiba, Esa, Chenchen, Wawa
9	El Ntiado	Kade	Stephen Mensah	Ceiba, Esa, Chenchen, Wawa
10	Owusat	Sekyere	MD	MRW, Otwese
Central Region				
1	Pan Sawmill	Cape Coast	Felix Amo	MRW, Dahoma
2	Tawud	Asafo Swedru	Edmund Dzanta	Chenchen, Esia, Dahoma, Okuo
3	Atendansu Sawmill	Fante Nyankomase	Wofa Yaw	Chenchen, Ofram, Mahogany MRW, Wawa, Dahoma,
4	BRM	Fante Nyankomase	Emmanuel Eshun	Asafona, Ofram, Walnut, Odum, Dahoma, Emeri, MRW
5	Abeberese Sawmill	Twifo Manpong	MD	Dahoma, Emeri, Ofram, Essia
6	Vasco Ventures	Fosu	Johnson Marven	Dahoma, Essia, Denya
7	Bed-Bek Timbers	Dumfa	Abeku Bed Bek	Dahoma

Volta Region

1	Hope Alobu Ent.	Kadjebi (Asato)	Hope Alobu	Wawa, Odum, Dahoma, MRW
2	Komens	Jasikan	Daniel & Osei Mensah	Dahoma, MRW
3	Kwaframs	Poasi Cement (Kadjebi)	Nana Gyasehene	Wawa, MRW
4	Gosek Ent.	Lipke Nkwanta (Hohoe)	Richard Asamoah	Wawa, Chenchen

Greater Accra Region

1	S. K. Owusu Sawmill	Accra (Amasaman)	Dieudonne Guedjin	Dahoma, Walnut, Ofram, Wawa
2	Fam Sawmill (Depot)	Accra (Adenta)	S. F. Martey	Wawa, Chenchen, Dahoma

3.3 HALTING CHAINSAW LUMBER PRODUCTION: COUNTING THE COST

By Attah Owusu, Ashanti Regional Forestry Manager

Introduction

The forest resources of Ghana, which covered over 8 million hectares at the turn of the 20th century in the high forest zone (HFZ) have been decimated to about 1.63 million hectares now.

The causative factors, which have led to this sad state of affairs among others, include clearance for agriculture, inappropriate management frameworks, wildfires, charcoal production; surface mining and of late illegal chain sawing and uncontrolled logging. It is on record that about 34% of logs taken from our forests are harvested illegally, of which 20% are felled by chainsaw operators.

It follows from the above that chainsaw activities are perhaps the most destructive practice in forest exploitation.

In fact, the activities of chainsaw operators in the forests pose a myriad of problems that appear difficult to solve. Most of the perpetrators are valiant and undoubtedly the Forestry Commission (FC) staff are beset with difficulties which render them appear unequal to the task of curbing the menace of chainsaw operations.

Some of these chainsaw operators operate deep in the night and since they are usually armed to the teeth the FC staff sometimes has no option than to look on helplessly for the perpetrators to grab their booty with impunity.

The application of laws to bring the situation under control has been fraught with difficulties, which have had implications socially, politically, economically and environmentally.

No matter how one looks at it the problem still exists and the perpetrators are in serious business. It is therefore prudent that the chainsaw menace is discussed dispassionately at a forum such as this where all stakeholders have the opportunity to contribute their quota for a common solution.

The resource situation

The total reserved area of the High Forest Zone is approximately 1.6 million hectares out of which 719,300 ha (45%) falls under production from which timber could be harvested (Table 7). The rest are under permanent protection, temporary protection (convalescence) or conversion into forest plantation.

Protection areas as the name suggests are areas set aside to cater for biodiversity conservation, water management etc. It must be mentioned that illegal chainsaw operations are not limited to only production areas but in protection areas as well!

Table 7 Current production reserve status in the HFZ of Ghana

Region	Production area (Ha)	Total reserve area (Ha)
Ashanti	126,400	383,900
Brong Ahafo	126,300	264,060
Central	73,400	110,730
Eastern	70,200	153,750
Western	323,000	700,880
Total	719,300	1,613,320

Total Reserve area = 1,613,320 ha

Within a period of thirteen (13) years between 1989 and 2002 the effective area under timber production has shrunk from about 1.2 million hectares to approximately 719,300 hectares (58%) with corresponding reduction of stock value from 14,435 m³/km² (based on 66 species) to 13,731 m³/km² (based on 82 species) as shown in Table 8.

The reasons for the reduction are attributable to annual wildfires, the chainsaw menace, unsustainable agricultural practices and illegal logging, among others. As mentioned earlier there is loss of desirable economic species due to creaming of targeted species by chainsaw operators and illegal loggers.

Table 8 Reduction in production area from 1989 - 2002

Year	1989	2002
Area (ha)	1,230,000	719,300
Stock Vol/Km ²	14,435 m ³ (based on 66 species)	13,731m ³ (based on 82 species)

Enactment of Trees and Timber (Chainsaw Operations) Regulations, 1991 – L.I. 1518

Until 1980, chainsaw machines were only used to fell and crosscut trees into logs. However, when their use shifted to the production of beams and lumber for commercial purposes, which intensified in the late 1980s, the government was compelled to legalise chainsaw operations with the promulgation of the Trees and Timber (Chainsaw Operations) Regulation 1991 (L.I. 1518).

This law required district assemblies to register chainsaw machines and permits could be acquired for felling and sawing trees by applying through the district forestry officer to the district assembly which had more mandate.

The idea was to help alleviate the problem of wood requirements for roofing and other purposes especially in the rural areas where there were no mills.

In the end, however, the purpose was defeated since the then Forestry Department did not have sufficient staff to monitor the operations and this led to a lot of abuse. Other weaknesses were the fact that the district assemblies also lacked capacity to monitor chainsaws that were being registered coupled with the fact that Lands Department were handling trees in the off-reserve areas.

Revocation of L.I. 1518

L.I. 1518 was revoked by Section 42 of the Timber Resources Management Regulations 1998 (L.I. 1649). Several factors could have given rise to the ban, foremost among which are;

- Prime species were being creamed;
- Permits were photocopied and used several times;
- Barons in the cities, who were the main sponsors of the chainsaw operations, directed the products to the cities as destination points thereby depriving the rural folks of lumber supply;
- There was a lot of wastage as recovery was very low (usually less than 20%);
- Undersized trees were being felled;
- The operators dodged payment of royalty, rent and other taxes.

The dilemma

Section 31 (1) of the Timber Resources Management Regulations 1998, LI 1649 only talks about prohibition of use of chainsaw to convert timber into lumber for sale.

“No person shall use a chainsaw whether registered or unregistered to convert timber into lumber or other products for sale, exchange or any commercial purpose.”

There appears to be a grey area because the question is what if the lumber so produced with chainsaw is neither sold nor exchanged nor used for any commercial purpose? If a permit is say issued for a tree meant for community project, can a chainsaw be used in processing it or not?

Government policy to address the supply of lumber to the local market

In accordance with Section 36 of L.I. 1649, the Minister of Lands and Forestry directed that all milling companies should supply 20% of their lumber production to the domestic market. Prior to this, some processing companies had been granted special permits to produce lumber solely for the local market.

Unfortunately, available records indicate that most of the milling companies did not comply with this directive but are rather concentrating on the export of lumber.

The question is why are the millers not supplying the local market? A number of points can be raised for or against this issue as the debate goes on.

The increase in illegal chainsaw operations is often attributed to the high cost of timber products from sawmills compared with the price of chain sawn products. Saw millers pay taxes and stumpage fees and their overhead expenses are relatively higher. They therefore sell at higher prices, which local consumers cannot afford.

Again saw millers prefer to export their products to enable them get back their investment and it is on record that whereas export prices average 95 US dollars (about ₵760,000) per cubic meter of log, the same amount fetches only between ₵ 30,000 and ₵ 40,000 (3.5 –5.0 US dollars) on the local market.

It can be argued that the export of lumber products by the sawmills has left a yawning gap on the local market, which the illegal chainsaw operators conveniently fill, eventually gaining monopoly.

What is prevailing now?

Revelations in the print and electronic media in recent times and casual observation around the country in general and Kumasi in particular reveal that there is proliferation of retail outlets of chain sawn lumber, a situation which compelled the FC to more than double its monitoring effort.

However, as a result of frequent assault on Forestry Commission personnel who dare the perpetrators, a request was made to the authorities for assistance from the security agencies – which led to the institutionalization of Regional Timber Task Forces comprising the military, police and staff of the FC to help stem the situation. Even though some successes have been chalked the menace is still hanging.

Counting the cost

The activities of illegal chainsaw operators and the unflinching attempts by the FC to stem the tide have incurred inevitable costs in terms of threat to human lives, loss of man-hours, social, economic, personnel and environmental among others as indicated below.

Threat to human lives and personnel

The list of incidents of hostile attack on FC Staff is long but I hope a few examples will suffice.

- At Sabronum in the Offinso District, personnel of FC and some policemen were assaulted by chainsaw operators and were even compelled to load and off-load chain sawn lumber before they were set free. Incredible, isn't it?

- Also at Kyekyewere in the Offinso District, a local citizen lost his life through a stray bullet during a scuffle between the youth and FC staff and police over seized chain sawn lumber.
- At Nkawie in the Atwima District, the right hand of a volunteer who had joined the FC staff to evacuate illegal lumber was amputated as a result of gun shot wounds he sustained from the attack.
- At Bekwai, one Range Supervisor lost his life when chasing a truck loaded with chainsaw lumber in 2002.
- Again at Goaso in the Brong Ahafo Region one Range Supervisor who was chasing a chainsaw operator was brutalised in 2002.

Social costs

- Strained relationship or conflicts between FC and forest fringe communities.
- Apprehension of FC staff in the performance of duty. For example what happened at Sabronum in the Offinso District has put some fear and humiliation in the staff of FC.
- Negative public image of FC. The public view of the FC as having lost control over the management of forest resources or even worse condoning in such illegal activities like chainsaw lumbering.
- Chiefs and opinion leaders from communities where chainsaw activities occur lose their credibility, as they are perceived to be conniving with the operators. This at times brings tension between FC and communities.
- Destruction of sacred groves thereby provoking ancestral spirits.
- FC officials go through psychological trauma from informants' telephone calls, some of which turn out to be false alarms.
- Loss of useful time
 - A lot of man-hours are lost in chasing out the illegal chainsaw operators, thereby causing FC to lose focus on its core functions.
 - In prosecution of court cases: For instance from July 2002, to October 2003, 24 cases had been dealt with in court. One particular case has been adjourned 19 times. In all these instances FC staff had to attend.
 - Management spends a lot of time in discussing, strategizing and implementing strategies to keep this menace in check.

Environmental cost

- Loss of biodiversity
- Destruction of habitats for wildlife and water bodies
- Loss of forest cover with its attendant increase in topsoil loss through soil erosion and a general disturbance of ecological balances (e.g. disturbance of water sources of the area).
- Creaming of prime species and creating wider gaps on the canopy leading to invasion of undesirable species, which will subsequently affect the integrity of the forest.
- It also increases fuel loads thereby facilitating the spread of wildfires.

Economic cost

The Economic Cost associated with chainsaw lumber includes:

- Loss of revenue: studies undertaken by the then Forest Product Inspection Bureau (FPIB) revealed an excess of 2.7 million m³ of wood, over the Annual Allowable Cut (AAC) of 1 million m³ which is equivalent to ₵ 10 billion cedis (1.2m US dollars) (TIDD 2002).
- Loss of useful man hours/days that could have been used for other productive activities: Personnel from FC, military and police are used for patrolling, arresting, conveying and prosecuting chainsaw lumber operators.
- Cost of monitoring chainsaw activities: A total of ₵ 468,891,120.00 has been spent on taskforce operations in Ashanti Region alone since its inception in April 2002.

- The limited resources of FC are overstretched in the deployment of vehicles, staff and guards which otherwise could have been used to implement core activities are directed towards dealing with the menace.
- High cost of forest rehabilitation:
- Food crops, cash crops, etc. are destroyed during chainsaw operations thereby increasing the economic woes of communities.
- Communities are deprived of wood that could be used for development projects.
- Land owners as well as FC lose revenue which would otherwise have been available from permitted logging.
- There is economic strain on FC staff through unbudgeted travel and transport (T and T) refunds and feeding cost of informants.
- Vandalisation of Forestry Commission vehicles. For instance, the Eastern regional task force's vehicle was smashed beyond repairs at Kade.

The way ahead

- Companies which were issued with special permits to supply the local market but failed to do so have undoubtedly contributed to the gap creation. Such companies should be sanctioned.
- The directive by the Ministry of Lands and Forestry to the millers to supply 20% of their lumber output to the local market needs to be looked at critically and strategies developed for its implementation.
- Design of wood friendly houses to reduce the use of wood in building.
- Encourage the use of plastic and bamboo as substitutes to wood panelling and doors.
- Since the ban on chainsaw operations is not working, policy makers should ensure that the laws are enforced.
- Education on the ill effects of chainsaw operations should be intensified by the media and the FC especially around the forest fringe communities.
- The chiefs and rural communities should be given sustainable incentives and livelihoods so as to refrain from colluding with the perpetrators.

Conclusion

The issue of banning chainsaw operations completely is quite complex since the saw millers are unable to meet the rural society's wood requirements.

Even though abuses were prevalent and there was a lot of wastage when chain sawing was legalised in the early 1990s, it is felt that the issue of chain sawing is no longer only a forestry issue but a social one and so it needs to be discussed in that context.

It is my hope that at the end of this workshop, practical and workable solutions would have emerged to help us in the sustainable management of the nation's forest resources.

3.4 LUMBER SUPPLY TO THE LOCAL MARKET: FROM POLICY TO PRACTICE

By Mr. E. E. K. Acquah-Moses, Executive Secretary of the GTMO

Mr Chairman, Honourable Minister of Lands and Forestry, Forestry Commission, board of commissioners, representatives of various organisations, distinguished guests, ladies and gentlemen, it is with great pleasure that I take this opportunity offered me by the organisers to share my views on the topic: 'Lumber supply to the local market: from policy to practice'

Before I address the topic, it is important to give a short background on the state of the timber industry; this will no doubt help give meaning to the current level of compliance or otherwise of timber millers with regard to local supplies of lumber.

Role in economy

The importance of the timber industry is very significant to the economic and social structure of Ghana and plays a major role in the private sector development of the country and as we already know the private sector has been recognised to be the engine of growth of the economy.

Talk about the Ashanti, Western, Brong Ahafo, Eastern, and to a lesser extent the Central Regions and we realise that the main industrial activity in these regions is the timber industry. The industry employs about 100,000 workers and has the ability to have multiplier effect on employment. The resource base of the industry is also renewable. These make the industry a very dependable sector that can power the growth of Ghana's economy provided the right direction is given through the correct industrial and trade policy framework. When this is done the level of revenue flow to the state would improve significantly from the current US \$180 million. The sector also accounts for 6% of the GDP and 11% of the country's total exports earnings.

Fiscal regime

Wood processing companies like any other Ghanaian business are subject to value-added tax, corporate tax, local government tax and social security contributions as well as import duties on machinery and spare parts. Beside these, companies are also subject to the forest sector taxation: variable stumpage payments, land rent, social responsibility agreements (SRA), species-specific air-dried lumber export levies, and across the board export levy (3% of export value) and the reconstruction levy (7% of export revenue) all proving a handful to the industrialists.

Public bidding for timber rights (natural forest and plantation timber) is due to start shortly. Revenues from stumpage payments accrue to the Forestry Commission to defray the forest management costs, while SRAs are paid to communities and other stakeholders (district assemblies, traditional authorities and land owning chiefs). The air dried levy of 15 - 30% is paid into the plantation development fund and the export levies accrue to the Forestry Commission having formerly been paid to the Timber Export Development Board (TEDB) and the Forest Product Inspection Bureau (FPIB). Both agencies have been merged into the Timber Industry Development Division of the Forestry Commission. The revenue from the reconstruction levy is paid through the CEPS to the Ministry of Finance.

Resource base and causes of dwindling forest

Mr Chairman, from the industry's perspective the resource base refers primarily to the forest that contributes so significantly to our society and our economy especially being the source of raw materials for the wood using industry mainly building and construction.

Mr Chairman, the total land area of Ghana is 23.85 million hectares and today about 20-25 percent of the land in the high forest zone is under reservations. At the turn of the 20th Century it was estimated that over 8.3 million hectares of the country was covered with high forest and almost 15.6 million hectares of the savannah landscape was wooded with luxuriant

vegetation. Today it is estimated that only 1.63 million hectares of the high forest remains, which predominantly has been put aside as permanent forest estate of forest reserves. Out of this total, about 0.76 million hectares is designated as timber production area and therefore opened to logging; 350,000 hectares has been set aside as permanent protection area where no timber harvesting is permitted.

Within the permanent forest estate, some 120,000 hectares and 0.13 million hectares have been set aside as convalescence area and conversion area respectively. It is also believed that about 300,000 - 500,000 hectares of the tropical high forest is outside the legally reserved forest. It is from this area that the bulk of commercial timber is harvested both legally and illegally, food and cash crops are produced and lands for mining of minerals have been leased out. The annual harvest of timber over the last 3 years has averaged over 3 million cubic metres per annum. Mr Chairman, the above situation in the resource base has necessitated the forestry sector reforms by government, which aims at:

- Addressing problems of unsustainable management and rapid depletion of the country's forest resources;
- Optimising benefits from forest resources to generate employment and alleviate poverty; and
- Facilitating the socio-economic development of country and rural areas in particular.

But Mr Chairman in addressing the problem of rapid depletion of the country's forest resources it must be borne in mind that it is only about 2 million cubic metres that could be pointed to legal timber felling as against 15 million cubic metres which is attributed to bush-fires, farming practices and illegal chainsaw operations.

Promotion of lesser-used species (LUS)

Timber millers, in the face of the above and also to increase the range of species available to them for utilisation are increasingly using lesser used species as a contribution to the nation's sustainable forest management and utilisation efforts. This will relieve the pressure on the few primary timber species that are threatened with extinction and it may interest you to know Mr Chairman that statistics have shown that the production of LUS is on the increase.

Value addition (the focus of the milling industry)

Mr Chairman, value addition has called for re-investment in the wood industry through the acquisition of kiln driers and other equipment in the drive towards downstream processing. If LUS had to be utilised it was mandatory that kiln driers would have to be acquired by the industry and saw millers have made re-investments in this area. And Mr Chairman the drive to downstream processing is the greatest challenge to the industry.

Currently more tertiary wood products are being processed for export and the proportion of the value added products in the total wood exports has been increasing steadily. The products are in kiln-dried lumber, plywood, processed mouldings, curls veneer, floorings, kiln dried boules, dowels, furniture parts, broomsticks, flush doors etc. The direction of trade for most of these products is mainly USA for plywood and Europe for the others. Let me add here that the emerging market for processed wood especially plywood is the ECOWAS market and a lot of attention is needed to exploit this market fully. Value added products like plywood, floorings, tongue and groove (T & G) etc. are also demanded by the local population and this is being produced and supplied locally by saw millers.

Importance of local supply of lumber to the economy

The importance of local lumber supplies to the socio-economic development of Ghana in general and the construction industry in particular cannot be overemphasised.

Right from the birth of the individual Ghanaian a baby cot is demanded through to schools where tables and chairs are a necessity; to employment where wood is heavily used in the offices; then of course when we have been successful citizens and must own our own houses, we need a lot of wood. When we get older we rest a lot on our beds not to mention the walking sticks, which aid us in walking, and then finally when we are tired of living we leave this world in a wooden coffin.

On the macro side we can observe the amount of wood that is used in government projects by building contractors and communities.

Certainly there is no gain saying the fact that wood plays a major role in the local lives of Ghanaians and therefore the resource must be made available for local use considering the fact that it also provides easier income to the Saw miller rather than going through the difficult processes of exporting e.g. Plywood, tongue & groove, doors, mouldings etc are mainly locally supplied.

Ladies and gentlemen, the necessity of the country to acquire sufficient foreign exchange to run the economy has also made it imperative for the resource to be exported.

Because of the relatively abundant wood in the system in the past and the crave for foreign exchange certain bad forest practices had been overlooked until the realisation that the resource is now getting scarce.

In the eagerness to rake in as much revenue from the timber industry (based on the erroneous perception that a lot of profits are being made from the industry) as was the case in the past within the industry, high levies and taxes have been placed on total proceeds from products of saw millers. These in conjunction with high operational costs have dealt jaw-breaking costs to the industry resulting in high prices of lumber.

Thus, whatever prices are quoted by saw millers at their sawmills should be seen as the real prices of lumber in Ghana and they are a true reflection of the cost build-up that is influenced by high operational costs and various fiscal components placed on products. This is contrary to prices of lumber at various markets like Anloga and the timber market where most of the prices of lumber are lower because they are from illegal sources that do not take into accounts taxes and levies.

Laws and regulations

Mr Chairman, if there is any Industrial sector within the Ghanaian economy that has suffered from a phenomenon called “ **regulatory inflation** “ then that must be the timber industry.

All over the world there has been a shift in paradigm from state planning and direction to their determination by **market forces**. This shift to market forces all over the world has focused attention on creating the conditions that allow the private sector to achieve its full potential. Attention is therefore increasingly focusing on regulatory systems and their impact on business.

Governments can be effective only if regulations achieve their policy objectives. Too often, the results of regulations have been disappointing. Dramatic regulatory failures tend to produce calls for more regulation with little assessment of the underlying reasons for failure.

This is the reason why the Ghana Timber Millers Organization (GTMO) has been calling for a meeting between the Forestry Commission and Ministry of Lands and Forestry on one hand and the timber industry on the other to find out workable solution to the issue of 20% local supplies of lumber. Rather the Forestry Commission has always taken refuge in coercive methods such as threats of non issuance of export permits to timber industrialists as a way of enforcing regulation 36 of the Timber Resource Management Regulations 1998 (LI 1649) in which the Ministry of Lands & Forestry in consultation with the Forestry Commission directed that each mill in the non selected category must supply a minimum of 20% of the company's total lumber production onto the local market whilst every mill under the selected category must put all lumber produced onto the domestic market.

It is important to note that under the same LI 1649 regulation 32, no person shall use a chainsaw whether registered or unregistered to convert timber into lumber or forest products for sale, exchange or any commercial purpose.

Level of compliance

Statistics have shown that the directive for local sales is being complied with. However although some individual firms are supplying, the total volume of supplies is quite low. In April 2003 for example, selected and non-selected mills supplied a total of 6,379.477 m³ of lumber to the local market. Mills in the Western Region supplied the highest volume totalling 2,900.686 m³ representing 45.47% of the total supply in April 2002 whilst mills in the Greater Accra Region supplied the least volume of 119.82 m³ representing 1.88% in April 2003. Observations made for that month of April shows that most of the mills did not file returns. This simply means that there was no demand for the product. Other observations and remarks made by the TIDD shows that many of the mills did not produce for the month due to inactivity and lack of raw materials or due to breakdown of machinery. However many mills have been able to supply even more than 20% to the local users.

A field survey by our organisation in April 2003 indicated that the local market preferred species such as Odum, Mansonia, Avodire, Black Hyedua, Akasa and Walnut, with a greater demand for Asanfina. But the sawmills mainly produce wawa, Ofram, Dahoma, Wawabima, Kyenkyen, Essia and then the lesser used species which industry has over the years been encouraged to utilise. We can not produce what we do not get. The Forestry Commission will confirm that the dominant species we market locally include Otie, Kyenkyen, Ceiba and Essia as stated above.

From the above it can be seen why local supplies of lumber is not happening in the right volumes. Mr Chairman, ladies and gentlemen, while the Forestry Commission is quick to implement LI 1649 regulation 36 through coercion and methods that defy economic principles, it has not used the same force to halt the activities of chainsaw operations that go contrary to regulation 32 of the same LI 1649 and using isolated cases of resistance to justify this shortcoming while it has the whole security agencies under its request. Ladies and gentlemen, this is a clear case of selective justice. Mr Chairman, chainsaw operators who sell their stolen products to retailers are considered to be walking illegalities and must be brought to book. As far as the millers are concerned, their activities tend to distort the real prices of lumber since they do not include the operational costs and levies that millers encounter.

Clearly it should have dawned on the authorities by now that merely imposing regulations that have economic consequences in the sector without looking at the economics of it will lead to undesirable results. What do I mean by this?

- **Low demand and supply under an unattractive domestic market.**

- **Demand**

- In many cases millers have opened outlets for the purpose of supplying lumber to the domestic market but there is simply no demand for the products, why is it so?

- **Prices**

Mr Chairman, nobody goes to the market to purchase an item when he knows he can get the same item cheaper and quicker, elsewhere within reach. It is well known that a long list of taxes and levies have been loaded onto the saw milling companies particularly the 7% and 3% levies that are based on turnover rather than profits. It is well known that the main operational costs within the industry are high. Electricity rates which are now pre-paid and transport related expenses are also high especially fuel. These have shot up dramatically. Who will price his items without including such major cost items?

Then comes the major market areas like Anloga timber market and lately numerous roadside structures. Here we realise that most of the items are stolen from the forest by chainsaw operators. Here, no stumpage fees nor taxes, nor levies are placed on cost of items. There are no salaries to be paid to workers (some companies employ over 1000 workers), no medical expenses are incurred on workers, no electricity charges etc; rather part of what would have been costs are placed on those stolen products as undeserved profits but which make the products cheaper. Quite naturally the public will go for the cheaper products. Assuming that the saw miller is even prepared to sell at a loss, the same price of lumber produced by chainsaw operators, he would have to charge VAT on the items and this alone will tilt the market in favour of chainsaw products, which circumvent the payment of VAT. So whenever millers sell locally they bear the VAT. The miller also reduces his real prices by about 25% in traditional species like Asanfina and Edinam to organised furniture manufacturers because these are the species they require.

For example at Atebubu, chainsaw lumber with size 2'' x 4'' could be bought for ₪15,000 while sawmills sell at a reduced price of ₪35,000 - ₪40,000 although the right rate is ₪45,000. The same could be said for 2'' x 6'' which sells for ₪25,000 but sells at ₪45,000 - ₪50,000 while the right rate is ₪69,000. Meanwhile the cheap chainsaw ones are thicker than the sawn lumber. The important factor to realise here is that the government agencies are proving impotent in dealing with the chainsaw menace, which is the main obstacle to effective local supply of logs. In the face of all these we realise that it is difficult to keep all these unwanted lumber whilst the timber business is in liquidity problems.

- **Supply**

The suspension of TUC's and failure to grant concessions (except for government companies whose concessions have been sold) for about 10 years has given chainsaw operators a field day to virtually loot trees from the concessions all this while. There has therefore been very little supply of timber to the industry while illegal operators have had a lot of supply.

Again felling of plantation timber has been suspended for sometime now and this has given a field day to chainsaw operators who have transformed to axe operators to virtually steal everything in the plantation. Some of us wonder what timber millers are bidding for at the auction.

On the supply side an arrangement was made to the selected local supply companies to be given TUC concessions out of which they would make 100% supply to the local market. But the TUCs were not forthcoming. Some of such millers have been refused to supply as their concessions have been taken away from them; There is an example of one such firm whose good area was taken away and with only Ceiba left has had to close down his sawmill although he

was into serious local supplies. For those who were likely to get such concessions they only got disappointed, as there were inadequate trees and preferred species in them.

Also the 30-60 trees in concessions that were given to some of the selected mills are not enough to feed the public. In the case of non-selected firms, they cut their trees subject to timber utilisation contracts that have been entered into; without such TUC's, as at now ladies and gentlemen how do they supply for the local market?

- **Non-patronage of lesser-used species (LUS)**

The main timber produced by the sawmills is LUS, which have not been fully embraced by the conservative public who still clamour for the traditional species. There is therefore very little demand for them.

Mr Chairman, clearly we observe that from the word go the basic economic principle of supply and demand cannot stand in the implementation of the regulations on the local lumber supplies so far. The result will be that the traditional purchasers from the sawmills of ostensibly local supplies will take the products to Accra but will end up at more attractive markets overland to ECOWAS markets as there is no demand for these items locally due to perceived high prices and over-supply of unwanted species on the local scene vis a vis the illegal sale of the stolen products by the chainsaw operators whose products are cheap on the patronised timber markets.

- **Financial constraints of public**

The public, in making efforts to utilise the local supply arrangements, is in many cases constrained by finance and would want to credit purchases from the sawmills. This is in sharp contrast to the current trend in other manufacturing sectors where advances are rather paid to the manufacturers for products to be supplied weeks or months later.

It should be noted that with the current high operational cost especially of fuel and pre-paid electricity it would be difficult for a miller to take a loan from a bank for production only to give credit for public or local sales while he has to pay interest on his loans

In any case because the chainsaw lumber is stolen the sellers are able to give credit to the public and this makes sawmill lumber unattractive to local purchases. All these tendencies are against the background that the retailers or the public want their supplies immediately whilst the exporter gets some 3 months to prepare for supplies to the international market.

- **Divergent requests for species, dimensions and specification**

The public usually comes with difficult requests for particular species dimensions and specifications and because these requests are so divergent it disturbs the production lines of the sawmills. As already mentioned, over 70% of species available are LUS, which is not in demand.

- **Lack of initiative by government and its agencies to promote the use of LUS**

With so much said about the depleted forests and the need to use LUS as a way of conserving traditional species and contribute to sustainable forest management; with so much said about local supplies; one would have thought that government would take the initiative of directing all contractors for its development projects to make use of lesser known species as a way of contributing to sustainable forest management;

The way has not been shown, no wonder the general consuming public is also not encouraged to make use of the LUS, which could be supplied in abundance by the sawmills to the local market.

Recommendations

- The public should be encouraged to negotiate with millers for realistic pricing and consequently constant supply in view of the divergent forces at play within the industry. The few who have done this enjoy a constant supply of products.
- Government must show the way in the use of LUS by insisting on their use for its projects. Bodies like GREDA should be similarly encouraged to make use of LUS and negotiate with the millers or GTMO over local supplies.
- Research institutions should be well resourced to enable them educate the public and promote the use of their research findings on the LUS. At least those of us here are by now aware of the reasons why we are concentrating our promotional efforts on LUS. These species are relatively abundant as compared to the more popular species and can allow us to maintain raw material supplied on a sustained basis until plantations are developed to replace dependency on the natural forests. If this prospect is not yet appreciated by all and sundry then the construction industry is still only a dormant giant that needs awakening. Formerly people complained about Dahoma claiming that it has a bad smell, but now it is in demand.
- Identification by the provision of the actual demand of lumber products indicating species, dimension and specifications to assist sawmills set up production lines for such production. The public could then be directed to particular sawmills for their orders.
- Involvement of industry in formulating policies within the industry with particular reference to local supplies but which of course should take into account the economics of such policies.
- Chainsaw operators who have confessed and reformed should be mobilised as a way of creating legitimate employment at communities or zones. They should be helped to acquire forest mills and given areas to operate in for the purpose of supplying the rural communities with lumber.
- GTMO has already suggested the reduction of lumber exports so that the excess goes to local supplies. This has the added advantage of making millers go further downstream.
- Government or its agencies should create a buffer as promised some time ago so that it could purchase sawn lumber from the sawmills for onward sale to the public. This should not be an additional burden on saw millers whose liquidity is currently under serious stress.
- Wood should not be misused; why should we use 2'' x 6'' and 2'' x 4'' for frames, roofing etc and why should we use 1.5'' x 12'' for the building of foundations while we can use 1''x 1'' or even metals or blocks which can be re-used.
- The GTMO has been re-iterating that plantation timber (which is now being harvested, having been planted during the Second Republic) should be used to feed the tertiary sector of the industry. But despite all our experiences of the past we have allowed the logs to be exported abroad. Who is then not interested in local supplies?
- Massive and well-coordinated afforestation

Mr Chairman, I wish to reiterate that all over the world there has been a shift in paradigm from state planning and direction to their determination by the market forces and this shift has focused attention on creating the conditions that allow the private sector to achieve its full potential. The timber industry is no exception to this worldwide trend. Policies that do not evolve around the free-market system stand little chance of success and Ghana has a lot of experiences in the past to remind itself of. But before this can work within the timber sector, illegal activities such as chainsaw operations for illegal gain that undermine the system must be removed rather than encouraged. They degrade the forest, distort prices, breed corruption amongst stakeholder officials and provide the wrong notion that saw millers are unwilling to supply lumber locally.

Finally, Mr Chairman, we in the timber milling industry are seriously focusing on downstream processing and value addition in the face of dwindling raw materials. What is occupying our minds currently is how to acquire capital for re-investment in the face of lack

of long-term loans to procure modern technology that will make use of wood residue and downstream processing. The level of levies, specifically 3% and 7% of total proceeds in the face of revenue bidding system for raw materials that aims at maximising revenue instead of transparency, should be seriously reviewed downwards to enable the industry pick up the pieces and continue from there. If this is not done, there will not be any production at all at the sawmills for us to debate which portion should go for local supplies as industries are faced with closures and lay-offs during this transitional period. After all, domestic revenue targets have been exceeded and it must therefore be ensured that excessive taxes and levies do not cripple the industry.

3.5 CHAINSAW LUMBER PRODUCTION IS WASTEFUL, FACT OR MYTH?

By Dr. K. Frimpong-Mensah, Institute of Renewable Natural Resources, KNUST

Abstract

Information on the conversion efficiency of chain sawing machines is important to those involved in the management, maintenance, and sustainable production of timber resources in Ghana. Chainsaw operators have been the main suppliers of lumber for the local markets (IIED/FD, 1994). This study was based on the sawing of 72 logs using the portable stihl 70 chainsaws.

The results indicated that several factors affect the conversion efficiency of chainsaws, including saw kerf width, operator's skill, sawing patterns, market demands. The lumber conversion efficiency ranged from 22% of 60% with a mean of 40%. Yield of lumber can be improved considerable if the factors of operator's skill, sawing pattern and plans can be controlled.

Data collection

Logs from 72 trees sampled from a forest reserve in the Goaso Forest District and from off reserves in the Asante Akim North District, were processed with chainsaw.

Logs were measured after bucking. A slab is removed first from one side of the bole, and then sawing is done through the middle. For further sawing to proceed, a monkey jack is used to lift the logs on benches created from the slabs or logs from smaller trees.

The jacking exercise can take as long as 3 – 4 hours depending on the size of the tree and the terrain. A wooden bar is used to roll the logs to the benches if they are of small diameter. Wooden chucks are put in place to prevent the logs from rolling back. Chucks are made into short wooden wedges. On the opening face of the logs, lines are drawn to indicate the thickness of the flitches to be sawn. They are made using a mixture of water and powdered carbon from dry batteries. A twine is dipped in the mixture and used to mark the parallel lines corresponding to the specific lumber widths. As the operator saws along the lines, the assistants sweep off the saw dust from the cut surfaces. The lumber conversion efficiency depends on the skill of the operators, the log quality, the hardness of the log etc. Butt end and top-end residues are usually left unprocessed.

Results

The results of the lumber conversion efficiencies are presented in Tables 9 and 10. The results of the useful butt-end and top end wood residues are shown in Tables 11 and 12 respectively. Table 13 shows the cost components of chainsaw operation. The production cost elements for the conversion of various species are given in Table 14. Table 15 gives a summary of the conversion efficiencies of sawmills using band saws and circular saws.

Discussion

The average log conversion rate at the stump site using the chainsaw was 40% with the maximum of 50%. In a similar study at some sawmills in Kumasi, the average lumber recovery was 39%. The sawmills use the conventional band saws for ripping and circular saws for cross cutting of lumber. Production output depended in both cases on the dimensions sawn; a lot more wood was sawn when flitches were produced in larger dimensions or beams. Much useful wood is left in the forest, due to the buyers demand for specific lumber dimensions. In terms of the costs involved in production of lumber using the chainsaw, it is more profitable than the conventional sawmilling process. Chain sawing process is less capital intensive. The causes of waste generation in chain sawing can be attributed to the under saw kerf and the inherent wood defect, such as heart rot, cracks, shakes, mineral deposits (silica) etc. Also the skills of operators play a major part. Inaccurate sawing affects the dimensions and quality of the sawn products.

Conclusions

Chainsaw operators are able to process timber into flitches with little damage to the forest. Finished boards or beams are also normally carried out of the forest using narrow paths. This again, cause minimum disturbances to the forest, when compared to the destruction caused by the conventional logging and harvesting methods, by sawmill.

These notwithstanding a lot of useful logs, branches and top ends are left in the forest to rot. If there is a control of harvesting and sawing, using the chainsaw for processing timber at the stump site, compared to other methods, may be more ecologically sustainable. Chain sawing requires a relatively small capital investment in machinery and other equipment.

It is recommend that, tree top end waste and stump timber should be sawn into short lengths of lumber for the furniture market. Trees on farms especially should be chain sawn to reduce logging and harvesting damage.

Table 9 Summary of lumber conversion rates

Species	DBH (cm)	No. of logs	Log length (ft)	Dimensions cut (inches)	Mean log conversion (%)
<i>T. scleroxylon</i>	78	3	16	1" x 12	25
<i>T. superba</i>	104	2	16	2" x 4, 2" x 3,	45
<i>T. scleroxylon</i>	120	4	16	4" x 12	38
<i>P. africanum</i>	124	3	16	4" x 6	41
<i>P. africanum</i>	130	3	16	4" x 6	40
<i>M. mesozygia</i>	94	3	16	2" x 3", 2" x 4"	36
<i>E. angolense</i>	98	3	16	4" x 6"	51
<i>K. anthotheca</i>	114	3	16	4" x 6"	40
<i>K. anthotheca</i>	120	3	16	4" x 6"	41
<i>K. antotheca</i>	112	3	16	4" x 6"	38
<i>G. ehie</i>	82	4	16	4" x 12"	45

Table 10 Lumber conversion efficiency

Tree No.	DBH (cm)	No. of logs	Log length (ft)	Dimensions cut (inches)	Mean log conversion (%)
1	78	3	27	25	14.63
2	104	2	60	45	9.75
3	120	4	42	38	19.50
4	124	3	40	41	14.63
5	130	3	37	37	14.63
6	94	3	48	51	14.63
7	98	3	43	40	14.63
8	114	3	40	41	14.63
9	120	3	41	38	14.63
10	112	3	42	40	14.63
11	82	4	44	45	9.75

Table 11 Butt end wood residues

Species	Length (m)	Top diameter (cm)	Volume (m ³)
<i>T. scleroxylon</i>	1.03	78	0.49
<i>T. superba</i>	1.28	118	1.40
<i>T. scleroxylon</i>	1.12	102	0.91
<i>P. africanum</i>	1.37	119	1.52
<i>P. africanum</i>	0.52	92	0.34
<i>M. mesozygia</i>	0.42	95	0.30
<i>E. angolense</i>	0.76	109	0.71
<i>K. anotheca</i>	0.52	118	0.90
<i>K. anotheca</i>	0.94	108	0.86
<i>K. antotheca</i>	1.49	128	1.90
<i>G. ehie</i>	0.76	79	0.37

Table 12 Top-end wood residues

Species	Length (m)	Top diameter (cm)	Volume (m ³)
<i>T. scleroxylon</i>	2.43	54	0.56
<i>T. superba</i>	3.66	72	1.07
<i>T. scleroxylon</i>	2.74	79	1.34
<i>P. africanum</i>	1.52	89	0.95
<i>P. africanum</i>	1.52	84	0.84
<i>M. mesozygia</i>	0.91	68	0.33
<i>E. angolense</i>	1.22	62	0.37
<i>K. anotheca</i>	2.13	76	0.97
<i>K. anotheca</i>	1.52	76	0.69
<i>K. antotheca</i>	1.83	72	0.74
<i>G. ehie</i>	1.22	47	0.21

Table 13 Log conversion efficiencies of sawmill

Machine type:		Bandmill (Bandsaw)
Saw kerf:	= 3.8 mm	
Logs sawn	= 24	
Total Input		Output volume (m ³)
Volume (m ³)	= 51.403	38.9 m ³
Mean	= 2.142 m ³	1.62 m ³
	= 0.802	0.65
Machine Type:	Edger (CIRCULAR SAWS)	
Saw kerf	= 6mm	
Logs sawn	= 24	
Total log input		Output Volume
Volume (m ³)	= 38.91 m ³	25.33 m ³
Mean	= 1.62	1.056 m ³
SD	= 0.65	0.65
Machine Type:	Trimmer (CIRCULAR SAW)	
Saw kerf	= 6 mm	19.08 m ³
Logs sawn	= 24	Mean
Log input	= 25.33	0.581 SD
Mean	= 1.06	
SD	= 0.65	
% Lumber Recover		
	19.08 x 100	
	51.40	
	= 37.11%	

Table 14 Yield result for a sawmill

Machines type	Input volume	Output volume (m ³)			% of total residue	
		Yield	Residue			
Bandmill	51.40	38.90	7.42	5.08	12.50	24.32
Edger	38.90	25.33	12.99	0.58	13.57	34.90
Trimmer	25.33	19.08	6.07	0.18	6.25	24.68
Total			26.48	5.84	32.32	

$$\% \text{ Lumber Recovery} = \frac{\text{Final Lumber Volume} \times 100\%}{\text{Input log volume}}$$

$$= \frac{19.08 \times 100\%}{51.50} = 37.11\%$$

Saw kerf

Table 15 Cost items of operations for month at a mill sawing 138 Wawa logs a month

Inputs	Costs (€)
Maintenance	3,200,000
Electricity	685,844
Wages and Salaries	6,372,000
Sawdust Carting	389,620
Overheads	400,000
Total	11,047,464

Table 16 Estimated costs of operations at the mill

Items	Unit estimate per m ³	Volume of logs/month 296.45	24 logs 51-40 cm ³	Residues 32.32 m ³
Costs	€	€	€	€
Maintenance	10794.40	3,200,000	554,873.28	348,875.01
Electricity	2313.53	685,844	118,924.18	74,773.29
Wages and Salaries	21494.32	6,372,000	1,104,892.00	694,696.42
Overheads	1344.30	400,000	69,359.42	42,609.33
Sawdust Carting	1314.20	389,420	67,559.25	42,477.85
Total	37265.84	11,047,464	1,915,608.10	1,204,431.90

Table 17 Cost components of chainsaw operation per log

Inspection Fee	€15,000
Silvicultural Fee	€50
Encumbrance Fee	€8,000
Conveyance Certificate	€15,000
Loading Fee	€40,000
Maintenance Cost	€20,000
Operators Assistants Fee	€30,000
Compensation to Farmers	€25,000
Operators Charges	€200,000
Feeding Cost	€25,000
Total	€678,050

4. STAKEHOLDER PRESENTATIONS

4.1 THE EFFECT OF THE CHAINSAW LUMBER OPERATION IN GHANA

By Mr. M. O. Addai, Woodworking Machine Owners and Operators Association

History of chainsaw operation

In the 1980's we were getting our wood supply from Ghana Timber Association (GTA) mainly the lumber, off cuts and the rejected ones. Prices shot up when middlemen were introduced into the business.

The wood sellers were told to get 20% of wood from saw millers. No sawmill gave out the supply. Their deposits have been locked up till now.

The saw millers supply the wood sellers with 3rd grade and firewood, which is not proper for local market.

Many of us shifted to the chainsaw operators for our supply. Then it was not illegal to depend on chain sawn beams and lumber.

Reason

- There was abundant wood in the forest.
- Fewer chainsaw operators
- Wood consumption was not great
- There were no arrests by the security agents.
- They were being monitored by the forest guards and the communities
- They were allowed to fell specified, selected trees and off cuts from the GTA concession.
- Timber was not gold as it is now. It was not an illegal item.

What is Woodworking Machine Owners and Operators Association?

The functions

- We deal directly with the chainsaw lumber especially the beams, by sawing, planning, lathing, moulding and cutting into shapes for furniture and other woodworking, estates developers, timber sellers etc. to manufacture their components.
- But unfortunately the government, forestry commission and organizations in the timber industries have not recognised our association; we have members all over the country.

What are the effects of chainsaw lumber production?

- In the 1980's when the chainsaw lumber production started, local timber markets were flooded with beams both good and bad.
- It affected the GTA production. The chainsaw operators illegally entered into their concession.
- They fell the trees indiscriminately.
- The immature wood from chainsaw operators has effect on estate developers, doors, roofing and interior decorations.
- No compensation was paid either to the government or to the local chiefs.
- Depletion of the forest

How has the ban on chainsaw lumber affected members of the association?

The ban has affected our organisation mostly.

- It has put most of our woodworking machines idle.
- It has affected our workers and our families
- We are unable to pay for the loans we secured from banks because of the scarcity of wood and beams on the markets.
- It has encouraged smuggling of wood products outside the country.
- Because of wood scarcity, now wood has become gold in Ghana

The way forward

- Chainsaw operators must be registered.
- They must operate under the district forest officers, the unit committees and the chiefs.
- Permits must be obtained before operation.
- They must not operate at night
- They must help afforestation.
- They should not operate near riverbanks and also in reserved forest. Selected trees must be allocated to them.
- Their seized goods must be sold to any of the recognised association in the timber industries.
- The government should let the saw millers supply the wood sellers with grade 1 and 2⁴⁶ and limit the exportation of timber lumber. This will eliminate the use of chainsaw beams.

⁴⁶ A quality index whereby 1 and 2 refer to the higher quality of lumber

4.2 CHAINSAW OPERATORS

By Mr. Prince Brenya Bonsu, President, Woodworkers Association of Ghana

Mr. Chairman, Honourable Minister of Lands and Forestry, representatives of other sector ministries, other dignitaries present, ladies and gentlemen.

The piercing thematic caption: "Chainsaw lumber production, a necessary evil?" poses equally piercing but important question that demands seemingly straightforward answer. Yet for obvious reasons there is more to it than the simple **yes** or **no** answer. Really the issue deserves such a dispassionate and thorough debate.

Mr. Chairman, we at WAG are fully aware of the efforts that the nation has made towards achieving sustainable management of her forest heritage. But illegal felling of timber has been a lingering problem as one can deduce from the multiple legislations enacted to arrest the issue. Consequently, a major step to curb the problem was made by the Ministry of Lands and Forestry through the introduction of the Timber Resources Management Act (547) and its accompanying L.I 1649. These effectively made the sawmills the only legitimate source of lumber for both domestic and export markets. Though resources such as timber are renewable, they are also exhaustible. Currently, one of the major causes of deforestation and reduction in the forest quality is timber logging which is done almost exclusively using chainsaw machines. The situation worsens if an attempt is made to convert or process logs into lumber by using the machine. The end result is waste (so say the experts).

Chainsaw operations

In 1960, chainsaw machines were introduced to Ghana to replace the long manual blades previously used in logging (Friends of the Earth-Ghana, 1998). The chainsaw was used mainly for felling and crosscutting of trees. The unconventional method of producing beams and lumber on commercial basis became widespread as sawmill operations declined in the early 1980s. Consequently, the then government was compelled to recognise it and tried to regulate the activities.

Mr. Chairman, the so-called chainsaw operation is a whole industry in itself. The machine owners are more often than not influential people in the communities. They are adequately funded. They have been accused of indiscriminate felling of trees (in the reserves), felling seed trees etc. It is an undeniable fact that their operations seem to have flourished (even though underground) because lumber supply from the sawmills is scanty and quite expensive. The production cost is relatively low as compared to the sawmill.

Controls

The expression of concern by society led to the Chainsaw Operations Regulations, 1991 (L.I. 1518) that was introduced by the PNDC government. This legislation gave the district assemblies and the Forest Service Division the authority to regulate the use of a chainsaw.

The regulation required that chainsaw operators registered their machines with the district assemblies and acquire felling permits from District Forestry Offices before they could fell or saw logs.

The flagrant abuse of this privilege by the various stakeholders (forestry officers, district assembly officials, traditional authorities and the chainsaw operators themselves) led to the inception of the L.I. 1649 (1998) regulation 32 subsections 1 and 2 which seek to ban the use of chainsaw in lumber or beam production and the sale of such products.

Effects of the ban

Mr. Chairman, it is true that chainsaw lumber have enjoyed the patronage of our members and those issues concerning chainsaw operations remain dicey as far as our industry is concerned.

Timber accounts for not less than 90% of all employment in the forestry sector in Ghana. And that WAG has a membership of about 20,000 nationwide. A collapse of the industry means loss of livelihood for all these people and their dependents.

In an attempt to enforce regulation 32 subsections 1 and 2 of L.I. 1649 (1998) without guaranteeing adequate lumber supply from the saw millers at affordable prices, untold hardships have come upon our members.

Enormous pressure is on the industry. The regulatory authorities (Forest Service Division/Task Force) are compounding the difficult situation by descending on our members. Machine motors and lumber are being seized coupled with indiscriminate arrests. WAG's position on this issue is that if the authorities cannot discourage or prevent the production of chainsaw lumber in the first place, what is the rationale in confiscating the lumber at the end-users workshop? We challenge the authorities to account for all confiscated chain sawn lumber and beams and to desist from harassing our members. We believe that once the problem is properly tackled and solutions found there would be no need to patronise illegally produced lumber or beams.

The best way forward

Members of WAG and indeed all woodworkers cannot do away with wood, either in lumber or log form. We therefore have no option than to support all measures aimed at sustainable wood production. As we gather here trying to find lasting solutions to this nagging problem, WAG will want to offer the following suggestions:

- The authorities should consider the re-introduction of registered chainsaw operation system, with appropriate monitoring mechanisms.
- The timber utilization permits (TUP) for small-scale millers should be re- introduced and be made to supply the local market only.
- The allocation of timber utilization contracts (TUC) should be done expeditiously.
- The allocation of plantation species (Teak, Cedrella, etc) is taking too much time to materialise.
- The most important thing of all is the afforestation/reforestation programmes. Even though we commend the Government's efforts, we believe much more could be done. And I am happy to say that WAG has taken up the challenge and has engaged a forestry consultant towards plantation establishment.

Conclusion

Mr. Chairman, chainsaw lumbering may be beset with many negativities yet we at WAG consider it a necessary evil. According to Friends of the Earth-Ghana (1998), apart from being a source of livelihood for a good number of Ghanaians, it provides 70 to 85 percent of the timber needs of the local market. The problem calls for pragmatic approaches that will recognise the complexity of the business.

It is quite relieving that this very programme is being organised today. And with your permission, I wish to express WAG's gratitude to the organisers for the opportunity offered us to be part of this forum. We need more of such.

4.3 SUPPLY OF LUMBER

By Mr. Forster Ofori

Mr. Chairman, Honourable Minister of Lands and Forestry, Parliamentary Select Committee on Lands and Forestry, other dignitaries, representatives of the various stakeholder organizations, invited guests, ladies and gentlemen. It is my pleasure to be called upon to represent the Ashanti Branch of the Ghana Sawm Timber Sellers Association to present our views and opinions on matters affecting chainsaw lumber production in the country.

Mr. Chairman, we are all aware that Ghanaians rely on Ghana sawn timber sellers for the direct supply of lumber for different types of building and construction projects. Even most government projects depend on us for the supply of lumber. Mr. Chairman, we in turn are supposed to receive sawn timbers from the various saw millers, as arranged by the government. Unfortunately however, the saw millers have failed to supply us with the 20% lumber as directed by the government. As a result, we are forced to rely on chainsaw operators in order to survive.

Mr. Chairman, we agree that chainsaw operation is not the best way for harnessing our timber resources. For greed, most chainsaw operators fell all types of undesirable trees both immature and low quality timber for the local market. These affect the environment and the market in a negative way.

Again, dealing with chainsaw operators have not served our best interest. Most chainsaw operators collect wood sellers monies with the promise of supplying us with lumber but never turn up again. This has resulted in some members of our association losing their capitals. Some members have lost their lives in the course of timber felling, loading of beams, transportation and harassment from law enforcement agencies.

Mr. Chairman, government decision to place a ban on chainsaw operation is therefore in the right direction. It should however be noted that this ban could only be effective if the above mentioned associated problems are addressed.

Solutions to the problems associated with chainsaw operations

- As the country is fast developing, the demand for local supply of lumber is also increasing. Measures should therefore be put in place to ensure that, saw millers supply timber sellers with lumber. Even if fully supplied, we note that the 20% would not be sufficient to supply the local market. We therefore suggest an increase from 20% to 50%.
- Mr. Chairman, if the government has realised that the forest resources are depleting, we suggest that one of the measures to curtail the situation is to control lumber exportation. Since local demand is also increasing, if possible export of lumber should be banned. Instead of exporting lumber, they could be processed into "knock downs", which besides having higher value would create employment opportunities to Ghanaians.
- We are also appealing to the government to reduce the royalties on secondary species like Esia and Otweise, to enable saw millers produce lumber to the local market at the lowest cost.

Mr. Chairman it is important that the government addresses our concerns. We therefore take this opportunity to implore the government to give serious consideration to our views.

4.4 OTHER PRESENTATIONS

Employment: in addition to the above, a member of the Woodworkers Association of Ghana (WAG) suggested the need for regulatory policy on the chainsaw lumber productions to avert any set back. In a related issue a member suggested the need for the government to decrease export of wood and rather encourage downstream processing. He added that the carpentry sector alone employs more than twenty thousand (20 000) people. He cited CIPO a Swedish Group and some American companies that are eager to invest in the processing of wood into furniture provided there would be enough raw materials to feed their companies. This, he stressed, could create employment opportunities.

Prevention via confiscation: another member also remarked that, there is an enormous pressure on the industry. The regulating authorities (Forest Services Division's Task Force) are compounding the difficult situation by descending on members. Machines, motorbikes and lumber are being seized coupled with indiscriminate arrests. He therefore challenged the authorities to account for all confiscated chain sawn lumber and beams and to desist from harassing members. In the light of the above he suggested the following:

- The registration of chainsaw operators
- Introduction of a permit system by the Forest Services Division
- Felling of trees along river banks should cease

Problems other than chainsaw operations: a representative of the chainsaw operators also hinted the house on the need to pay attention to methods to curb bushfires rather than laying too much emphasis on chain sawing since their activities do not destroy the forest as portrayed by the public.

He reiterated that the government should help the chainsaw operators to form groups so that they could be educated on reforestation.

Need for plantations: in addition to the above another member suggested the need for a Presidential Initiative in tree planting like what pertains at Ghana Rubber Estate Limited (GREL) and Oil Palm Plantation.

In response it was indicated that the government has instituted a forty-two (42) billion cedis of the HIPC for the National Plantation Project which is targeting all regions in the country.

5. GROUP DISCUSSIONS

Participants were divided into four groups to deliberate on issues like *legalisation, enforcement, equity, and sustainability* with respect to chainsaw lumber production using the following preambles and questions as a guide.

5.1 WHAT IS THE WAY FORWARD?

With facts from the various presentations in mind, the participants agreed on the need for a second look at the ban on chainsaw lumber production since it is on the ascendancy in spite of the ban. The following were suggested as possible ways forward:

- Considering legalisation as an option, the house advocated a thorough research into the pros and cons of legalising chainsaw lumbering to avoid mistakes in the near future.
- Chainsaw lumbering should be legalised and controlled with conditions:
 - Sawing should be improved without the use of conventional chainsaws
 - Chainsaw operators should operate in inaccessible areas: e.g. hilly areas
 - There should be transparency and equity in the chainsaw lumber production
 - Chainsaw operations must be restricted to off-reserve areas
 - The operators should be encouraged to form an association
- Chainsaw operators must be properly trained and helped to acquire appropriate equipment for the industry
- Forest concessions should be given to the association after its formation
- Chainsaw operators must be required to replant degraded lands
- Members suggested that negative effects of chainsaw lumber production such as wastage, felling of trees below felling limits and tax evasion should be minimised via:
 - The formation of an identifiable body to which all operators will belong
 - Registration of all chainsaw operators
 - Training and certification of all chainsaw operators to improve their efficiency
 - Sensitisation of the general public on the pros and cons of chainsaw lumbering
 - Equitable distribution of fees captured from the chainsaw activities to all stakeholders not excluding the farmers who nurtured the trees on their farms.
- Appropriate alternatives to wood like bamboo and rattan should be sourced
- Operators should be trained in alternative livelihoods such as snail farming, grasscutter rearing, and black pepper cultivation among others.
- There would also be the need for policy reforms within the sector concerning chainsaw lumbering. The Law and policy on chainsaw lumbering should be altered to indicate clear guidelines on the operations and responsibilities of chainsaw operators
- There should be the introduction of a permit system in which all the associated regulations will be strictly enforced
- As to the monitoring of the association's activities, it was suggested that the Forestry Commission, landowners, communities and the chainsaw operators themselves be made to play a monitoring role in making sure that the association plays by the rules.
- The proposed timber toll (whatever is decided) should be competitive.
- Taxes on lumber export should be increased and an incentive given to saw millers to supply the local market.
- Revenue generation would be from payment of stumpage fees, taxes and other designed levies.
- The issue of equity should be addressed through legalisation of chainsaw lumbering and avoidance of unforeseen expenses so that appropriate levies can be charged

5.2 WHO DOES WHAT IN REALISING THE WAY FORWARD?

- Ministry of Lands and Forestry and Forestry Commission should review existing policy to conform to realities on the ground. They should also look at the implications of legalising the chainsaw operations in terms of national interest.
- Forest Service Division and Forestry Commission should collaborate with identifiable groups of stakeholders to develop and organise training programmes which will lead to certification for chainsaw operators. Also if it should be legalised, they should come out with the regulations within which chainsaw activities will be accommodated. These control regulations should be strictly enforced by the FSD, landowners, and fringe communities.
- Researchers: should do more research to determine the size of the local market, demand and supply as well as on the operations of the chainsaw lumbering and its future effects on the forest and environment when legalised. Also alternative building materials should be researched into.
- NGOs: should get involved in plantation development and increase the rate of their awareness creation/education programmes. Also there is the need to strengthen their advocacy role, by organizing training programmes and more workshops to review status of the chainsaw operation.
- Chainsaw operators: should be encouraged to form clusters based on locations, engage in sensitising their members, develop code of ethics for members and assist in monitoring their activities.
- Landowners and communities should be made to benefit directly from resources and also involve themselves in the protection of the resource.
- Wood sellers should be motivated to buy from the operator associations.

In all the above, there would be the need to embark on comprehensive, independent and collaborative study into the issue at hand.

6. CLOSING

6.1 MINISTER'S REMARKS

Professor Fobih accepted the outcome of the discussion and said stakeholders should collaborate with the government to come up with a workable solution to the problems associated with chainsaw lumbering. The minister informed the participants of the discussion the ministry has been holding with the industry, Forestry Commission Board and the Timber Industry Development Division to ensure adequate supply of lumber to the local market.

On increasing the quota of lumber supplied by sawmills to the local market from 20% to 50% as suggested by some participants, he explained that the mills are not even supplying 10% of the expected quota and even those mill products that find their way to market are so expensive that it takes weeks before they are bought. The percentage increment in supply to the local market could only be considered in response to an increase in demand for mill sawn lumber on the market.

In response to cutting down timber export, emphasis was laid on the ban on log export in the timber laws of this nation. The timber industries were encouraged to liaise with companies in Cameroon and Republic of Congo to import logs since taxes on log import has been scraped off.

The honourable minister pleaded with the timber millers to contribute their quota to national development by paying their taxes since it is this same money that is used in developmental projects all over the country.

He concluded that if the efforts by the government would be successful then all stakeholders should be law abiding with respect to tax payment. The need to focus on sustainable forest management was stressed. He also stressed on the need for all stakeholders to embrace the plantation programme initiated by the government.

6.2 TBI –GHANA'S REMARKS

The Programme Team Leader thanked the chairman for steering affairs to a successful end. He extended his appreciation to the minister for having spent his time to participate in the programme. He also extended his gratitude to all the stakeholders for their patience, suggestions and criticisms and said the workshop proceedings would be put together and presented to the appropriate quarters.

6.3 CHAIRMAN'S REMARKS

The Chairman in his closing remarks thanked members for the fruitful discussion which he believed would give all stakeholders impetus to forge ahead. He added that whatever benefits the present generation are enjoying from the forest should be extended to future generations. There is therefore the need to regulate the chainsaw menace by all stakeholders. The need to focus on sustainability was also stressed.

He expressed his dislike about the fact that people's attention go to timber whenever forestry is mentioned in Ghana as there is more to forestry than timber. He mentioned that the problem of the nation is that our industry has been developed with an export orientation, where everybody who goes into the industry thinks about exporting to make hard currency without thinking about the domestic requirements. He reiterated the need to think about the management or regulation of the resource to ensure that there will be something left for both present and future generations. He continued by saying that we will be greedy people with myopic vision if we do not consider the future generations.

The chairman informed the house of the government's plantation programme which is to be inaugurated next year and urged all the participants who have access to land to get involved since it will good venture.

Since the house felt that the legalisation of the chainsaw lumber operation should be considered, he stressed the urgency in examining issues concerning our forest critically so that it will be beneficial to the future generations. In his concluding remarks he expressed hope in the organisers to get together all that has been said and presented and come up with recommendations for the ministry to embark on the appropriate action.

APPENDICES

Appendix 1 – List of participants

INVITED GUESTS

- | | | | |
|----|-------------------|---|-------------------------------------|
| 1. | Dominic Fobih | - | Minister for Lands and Forestry |
| 2. | E.Y. Djokoto | - | Chairman/FC Board member |
| 3. | E.O. Anim Mantey | - | Ministry of Environment and Science |
| 4. | Peter Boateng | - | Ag. Chairman Forestry Commission |
| 5. | Gytha Nunoo | - | Forestry Commission Board member |
| 6. | Yaw Asiedu-Mensah | - | Forestry Commission Board member |
| 7. | Chritiana A Nuama | - | International Board –TBI |

RESOURCE PERSONS

- | | | | |
|-----|-------------------|---|--|
| 8. | Edith Abroquah | - | Forest Services Division (FSD) |
| 9. | John E. Otoo | - | Ag. Chief Exec. FSD |
| 10. | Atta Owusu | - | Forest Services Division |
| 11. | Henry. G. Coleman | - | Timber Industry Development Division (TIDD) |
| 12. | Emmanuel Marfo | - | Forestry Research Institute of Ghana (FORIG) |

STAKEHOLDERS

- | | | | |
|-----|-------------------------|---|---|
| 13. | Atuahene Nyako | - | Forest Services Division (FSD) |
| 14. | Frank Aidoo | - | Ministry of Lands and Forestry |
| 15. | Sampson Adjei | - | Ministry of Lands and Forestry |
| 16. | F. W. Addo Ashong | - | Forestry Commission Board |
| 17. | E. S. Lomo | - | TIDD |
| 18. | Nana H. K. Ayebeng | - | TIDD |
| 19. | Offei-Nyarko | - | “ |
| 20. | Edwin Osei Sekyere | - | “ |
| 21. | Joseph Peprah | - | “ |
| 22. | E. N. A. Okai | - | “ |
| 23. | E. Asuka-Boakye | - | “ |
| 24. | S. A. Boateng | - | “ |
| 25. | W. K. Lartey | - | “ |
| 26. | Valerie F. Nassah | - | Collaborative Forest Management Unit (CFMU) |
| 27. | Alex Asare | - | “ |
| 28. | Joseph K. Amponsah | - | Woodworkers Association of Ghana (WAG) |
| 29. | B. K. Oduro | - | “ |
| 30. | Daniel C. Tecku | - | “ |
| 31. | E. O. Mensah | - | Woodworkers Association of Ghana |
| 32. | Prince Brenya Bonsu | - | “ |
| 33. | Dosu Ayivi | - | “ |
| 34. | Boakye Yiadom | - | “ |
| 35. | Victor Obeng Adjei | - | “ |
| 36. | James Antwi | - | “ |
| 37. | Mr. solomon Addei Marfo | - | “ |
| 38. | Kwame Suka | - | “ |
| 39. | Simon Kwabena | - | “ |
| 40. | Kwaku Antwi | - | “ |
| 41. | Eric Akuamoah | - | “ |

42.	Richard K Gyamfi	-	“
43.	Kwaku Beyeden	-	“
44.	Agbemegyi Kwadwo	-	“
45.	Williams K. Tetteh	-	“
46.	Ohenmeng Matthew	-	“
47.	R. A. Debrah	-	“
48.	Alex Amonoo	-	“
49.	John Mensah	-	“
50.	Kwadwo Adusei	-	“
51.	Samuel Agyei	-	“
52.	Stephen Osei-Amakye	-	Environmental Protection Agency
53.	Moro Mohammed	-	Timber Seller Association
54.	Seidu Nuhu	-	“
55.	Imoru	-	“
56.	Nana Fameyeh	-	“
57.	Peter O. Kwezie	-	“
58.	Osei Owusu	-	Sawn Timber Seller Association
59.	Osei Kofi	-	“
60.	Nana Obiri Yeboah	-	“
61.	Foster Ofori	-	“
62.	Charles Kra Boadu	-	“
63.	George Owusu	-	“
64.	Moses Addai	-	WOODMODA
65.	Akuamoah Boateng	-	“
66.	F. Nana Akowuah	-	Furniture and Woodworkers Association of Ghana
67.	Joseph Oduro	-	Wood Industry Training Centre
68.	S. Adonteng	-	Forest Research Institute of Ghana
69.	Nana A Boadu	-	Building and Road Research Institute
70.	E. E. K. Acquah-Moses	-	Ghana Timber Millers Organization
71.	Joe Ackah	-	College of Renewable Natural Resources
72.	E. A. Abbeney	-	Institute of Renewable Natural Resources
73.	K .F. Mensah	-	“
74.	Gordon Sarfo Adu	-	Ghana Institute Professional Foresters
75.	Henry K. Kokofu	-	“
76.	Joseph William Osei	-	“
77.	Owusu Agyekum	-	Ahwiaa Woods
78.	Osei Owusu	-	“
79.	Osei Kwame	-	“
80.	Osei Mensah	-	“
81.	Oliver	-	“
82.	Kwame Mensah	-	Chainsaw Operator Association
83.	Addai Bosompem	-	“
84.	Sampson Brobbey	-	“
85.	Agyekum Jerry pen	-	“
86.	N. T. Ankra	-	Ghana Police Service
87.	J. Boakye -Amponsah	-	FSD
88.	Emmanuel Ntiri	-	Care International
PRESS MEN			
89.	Philip Sibeko	-	Ghana News Agency
90.	Noah Opoku Gyamfi	-	Zuria FM
91.	Alex Amoako	-	Ash FM
92.	Love Antwi	-	Kumasi Mail
93.	Owuahene Acheampong	-	Accra Mail

94.	Bawah Amadu	-	Accra Mail
95.	Brenda Osei Akoto	-	Ghanaian Chronicle
96.	David Owusu Antwi	-	Ghanaian Times
97.	Dan Segah	-	GTV/GBC
98.	George Grant	-	GTV/GBC
99.	P. K. Donkor	-	GTV/GBC
100.	Pady Andy Jnr.	-	Business & Financial Times
101.	Charles Ampong	-	Search Light
102.	S. Owusu Ansah	-	Independent
103.	Arojah Amadi	-	Peace FM
104.	Jacob Sarkodie	-	Network Herald
105.	Portia Kontor	-	Public Agenda

ORGANIZING COMMITTEE

106.	K.S Nketiah	-	TBI-Ghana
107.	Kyere Boateng	-	“
108.	Anneke Wieman	-	“
109.	Kwabena O. Asubonteng	-	“
110.	Olivia Larbi-Nyanteh	-	“

SUPPORTING STAFF

111.	William Ampong	-	TBI-Ghana
112.	Michael Ampah	-	“
113.	Danquah	-	“

RAPPORTEURS

114.	Comfort Konto	-	Forestry Research Institute of Ghana
	Kwabena O. Asubonteng	-	TBI- Ghana
115.	Henry N.A. Aryeetey	-	TBI- Ghana
	Anneke Wieman	-	TBI-Ghana

Appendix 2- Workshop programme

CHAINSAW LUMBER PRODUCTION: A NECESSARY EVIL?

Aim: to bring together key stakeholders to debate the issue and come up with a way forward

Date: Tuesday, 11th November 2003

Venue: Wood Industries Training Centre (WITC), Akyawkrom

Time: 8:30am. - 5:00pm.

Opening Session

- 08:30 - 09:00 Arrival and registration
- 09:00 - 09:03 Opening prayer
- 09:03 - 09:10 Welcome address - TBI-Ghana
- 09:10 - 09:15 Introduction of chairman and other dignitaries
- 09:15 - 09:20 Chairman's address - Chairman, Parliamentary select committee on lands and forestry
- 09:20 - 09:25 Keynote Address - Minister, MLF
- 09:25 - 09:40 Chainsaw lumber production and Sustainable forest management - FC
- 09:40 - 09:55 Measures to curb chainsaw lumber production and their degrees of success - FSD
- 09:55 - 10:10 Coping with illegality: Conflict over chainsaw lumbering and coping Strategies - FORIG

10:10 –10:45 Snack Break & Group Photographs

Technical Session I

- 10:45 - 11:00 The local wood market: Size and nature - TIDD
- 11:00 - 11:15 Halting chainsaw lumber production: Counting the cost - FSD
- 11:15 - 11:30 Policy measures to ensure supply of lumber to the local market -MLF
- 11:30 - 11:45 Lumber supply to the local market: Policy to practice - GTMO
- 11:45 - 12:00 Chainsaw lumber production is wasteful: Fact or Myth? - IRNR, KNUST

Technical Session II: Stakeholder Presentations

- 12:00 - 12:10 Timber Sellers Association
- 12:10 - 12:20 Ghana Real Estates Developers Association
- 12:20 - 12:30 Ghana Timber Association
- 12:30 - 12:40 Furniture and Woodworkers Association of Ghana
- 12:40 - 12:50 Chainsaw Operators' Association
- 12:50 - 13:00 Woodworkers Association of Ghana
- 13:00 - 13:10 Woodworking Machine Owners Association

13:10 –14:00 Lunch break

- 14:00 - 15:30 Group discussions

Final Plenary Session

- 15:35 - 16:35 Group presentations
- 16:35 - 16:45 Chairman's closing remarks
- 16:45 - 16:50 Closing prayer
- 16:50 - 17:00 Refreshments

THANKS FOR COMING!!